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ORIGINAL DEPARTMENT.

LECTURE.

SOME POINTS ON THE HEALING OF WOUNDS.

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(*Concluded from page* 546.)

In the next place, the drainage-tube deserves our consideration. While the drainage-tube, in one form or another, is useful to permit the escape of blood and serum, and thus diminish pressure and limit the quantity of waste material, it is by no means perfect in its work at all times. Much of the blood that oozes from the unclosed blood-vessels of small calibre not unfrequently coagulates outside of the drainage-tube, and so remains within the flaps to interfere with primary union. The drainage-tube is an admirable contrivance, not only for the removal of blood and serum, but also for the removal of the excess of proliferation. Antiseptic solutions can be run through properly-constructed drainage-tubes, so as to wash out the waste material and prevent the toxic effects of its absorption. The sure sign of such toxic effect is the elevation of the patient's temperature. And almost invariably, after the wound cavity has been washed out with an antiseptic solution, the temperature rapidly falls. For this there are two reasons: First, the waste material of proliferation and repair are washed out, so that it cannot be absorbed. Second. The proliferating cells are inhibited in their special activity, so that less waste material is formed. I have often noted a sudden rise of temperature, when waste material has been absorbed, whether from acute proliferation and suppuration, or from the accumulation of serous effusion and infiltration. And this event has frequently happened when there has been no infecting microbe present. It is then that the drainage-tube becomes a most valuable aid in the healing of wounds.

Who does not know that there is more or less swelling of the peri-jacent tissue in all cases of wounds? And if there has been an amputation, we speak of the change as a swelling of the flaps.

Let us look for a moment at the condition of things in these tissues. The severed end of every blood-vessel, large and small, will finally, on the arrest of hemorrhage, contain a blood-clot; and the peri-vascular spaces will contain more or less extravasated serum for a considerable distance beyond the wound surface. In one case this swelling will be moderate; in another, it will be considerable; and in still another it will be very great. And I have satisfied myself, after much observation and experience, that this coagulated blood, and this effused serum, have an important bearing on the question of healing of wounds. The more extensive this coagulation and the more marked this effusion, the more difficult will it be to obtain primary union. Indeed, all efforts to obtain primary union may be defeated by this condition of the blood-vessels. Even after the successful arrest of hemorrhage, when no blood-clots form between wound surfaces, and when everything at the outset promises speedy union, we may have excessive proliferation, profuse suppuration, followed by granulations and secondary union. And such results may be due to the extent of the

intravascular blood-clots and the quantity of the extravasated serum.

And if we search for the cause, we may find it in the severity of the injury that has devitalized the cells and paralyzed to a greater or less extent the nerves of the parts in which the wounded surfaces are located; or in the fact that the parts that have been wounded were already in a disordered condition, so that the blood-vessels could not properly retract and contract, and could not resist the copious extravasation of serum; or, in the blood itself, which has had its power to coagulate impaired, and whose serous portions have become prone to exosmosis; that is, extravasation; or, in the manipulation to which the tissues have been subjected during an operation, such as the compression and strangulation produced by the elastic bandage, and such as the prolonged and severe handling of the amputation flaps.

But if we search for a remedy we may not find it in every case—unless, perhaps, we leave all wounds open so that the blood of the primary oozing can escape, and so that the extravasated serum can run out. And even this does not meet the indications we seek. And to apply pressure to the flaps, for instance, I have seen to be frequently full of harm, for so resistless is the force of the extravasated serum that the already damaged tissues cannot support any competent pressure. But yet a certain moderate amount of pressure, for the purpose of diminishing the serous outflow, I have found advantageous, and would recommend. And in addition to this, if the wounded part can be elevated, that may contribute something toward the arrest of serous infiltration. But in regard to the arrest of oozing from the wounded surfaces, this desirable result may not always be attainable. In more than one case I have been deeply impressed with the following clinical history: For instance, a patient comes under my care with a crushed limb; the patient's life and the rest of his limb must be conserved; he is suffering from shock, and may die under a prolonged operation; after the administration of ether I amputate his limb as speedily as possible; then at once the large blood-vessels are ligated; the wound surfaces are rapidly washed with a warm antiseptic solution; an antiseptic dressing is put between the flaps, and an antiseptic dressing is put on the outside and firmly held in place by a bandage. The patient has had the least possible shock from the operation; he has free and copious oozing; he has abundant drainage; he has the minimum of swelling; he has a desirable amount of proliferation; he has the early formation of granulation tissue, which speedily grows the flaps together; and during all this there is little or no fever. And yet there are many cases in which I would recommend the most thorough arrest of hemorrhage, and a complete apposition of the soft parts after the following plan: Two or more sutures, inserted at some distance from the edge of the flaps and made to traverse them deeply, are tied so as to bring and hold the entire wounded surfaces face to face. This expedient will tend much to prevent oozing from the small vessels, and it will prevent tension on the sutures that are to co-apt the cutaneous edges, which should now be inserted at such a distance from the edge of the flap as not to interfere with the proper circulation, and so as to make the adjustment as complete as possible.

If the infliction of a mechanical, molecular, or chemical injury, of momentary duration, will cause such profound changes and such important results, then we may note the effects produced by infection and be able to comprehend them more readily, and accept the cause of the phenomena without incredulity. All wounds lead to proliferation in some degree; all proliferation brings waste material; all waste material is the pabulum of micro-organisms; hence, micro-organisms may invade any wound. Now, micro-organisms can multiply and persist in their work; they can produce a continuous irritation; and so they can keep up the process of proliferation; and so they can also keep up the work of suppuration. If these statements are correct, and I believe they are, there can be no question as to our line of duty. Are we not bound to use those remedies that experience has shown to be useful in preventing and arresting the development and growth of infecting micro-organisms? While we answer this question in the affirmative, we must not lose sight of the harm that may come from the practice of antiseptic surgery. For too much of a good thing may cause the gravest disorders. In great practical problems it is not always easy to fix the exact line of our work. I am not ready to condemn a piece of practice on the ground that I would do it in a different manner.

But there is one point of special interest to me in the practice of antiseptic surgery, and one that I have always looked upon as of primary importance, and upon its practical bearing I have always insisted: the cells of the wound-surfaces must always be kept in the best condition possible under the circumstances. Too often, it appears to be

thought only necessary to apply some kind of antiseptics in order, as is alleged, to keep out the microbes of sepsis. Just as if there were no harmful influences that could come from an injury or an operation. In some subjects it is indeed true, whether or not we can rightly explain it, that the proliferation incident to repair is excessive, and eventuates in profuse suppuration, which may go on for a longer or shorter time before healing takes place. And this form of suppuration may have no antecedent of septic infection, and no relation to septic intoxication. As already indicated, the judicious application of antiseptics to the tissues, that, under the action of some non-infecting irritant, are apt to take on excessive proliferation and suppuration, is most salutary practice. To inhibit and guide a recently proliferated cell, so that it can become a scar-tissue fibre, is one of the most praiseworthy acts of the practical surgeon. And because the antiseptic happens to be competent to perform this office, that is, it can inhibit the new cells as well as the microbes, we are not to conclude that the therapeutics of antiseptics begin and end entirely in the destruction of microbes. Hence we come to this conclusion: If there were no microbes, it would still be true that wounds would heal better under the careful employment of those substances called antiseptics, than they would to abandon them altogether.

COMMUNICATIONS.

FRACTURE, WITH TREATMENT AND SUIT FOR MALAPRAXIS.

BY H. S. CUNNINGHAM, M. D.,
Of Indianapolis, Ind.

On the 12th of August, 1884, Mrs. B., while trimming grape-vines, fell from a step-ladder, and suffered a compound comminuted fracture of the tibia and fibula about one and one-fourth (1¼) inches above the ankle-joint. The soft parts were terribly lacerated and torn on the inner side of the limb, the laceration extending from the crest of the tibia to the tendo-Achillis, the lower fragment of the tibia protruding from the wound, and split in two antero-posteriorly, the foot being flexed upon the outer side of the leg. Both bones were broken at another point, about two inches above the fracture just described, but the soft parts were not visibly lacerated at this point. Mrs. B. was about forty-eight (48) years old, and weighed 250 pounds. She also showed a marked predominance of the lymphatic temperament. The previous history of the limb was not good, as she had suffered with œdema and varicose veins for a period extending over seventeen (17) years, and experienced much weakness when walking or standing upon it. The previous history of the limb, together with the nature and extent of the injury and a temperament indicative of a sluggish circulation and deficient action of the absorbents, led me to put it into the fracture-box; for by its use I could keep the limb in a more quiet and fixed position, and elevate the foot much higher than the body, forming an inclined plane, and not flex the limb at the knee, thereby favoring the returning circulation through the veins, some of which were already lacerated and destroyed, the long and short saphenous veins and their tributaries being more or less defective from broken-down valves. I bandaged the limb with white flannel, because of its elasticity, and placed it in a fracture-box, which was well padded and nicely moulded to the under side of the leg; the foot was secured to the foot-board, and extension kept up by the aid of adhesive plaster. Sand-bags were nicely moulded to each side of the limb, being careful to avoid undue pressure at any given point, to prevent motion. Oiled silk was placed under the wound, and then dressed with a carbolic lotion, drainage-tubes having first been placed in the proper position. Absorbent cotton and oakum were placed at the site of the wound, and the patient given an anodyne.

Mrs. B. was placed upon Hewson's fracture bed, as shown in Druitt's Surgery, page 255, the third day after the injury; or as soon as one could be constructed. Every effort was made to heal the wound, and convert the injury into a simple fracture as rapidly as possible. Close attention was given to the general temperature and circulation, and more especially to the local temperature and circulation of the foot and limb. About the fourth week dead bone was found at the seat of the fracture, on the inner side of the limb, by probing through a fistulous opening, but no detached spicula could be discovered. I then introduced a seton through this opening, which was situated near the crest of the *tibia*, and passed it down to the point where I discovered dead bone, and cut again just above the tendo Achillis. I hoped by this procedure to favor drainage, and possibly aid in the completion of union of the bones. About the fifth week the fracture-box was removed, when I discovered that the heel had an ulcer upon it, and the end of the os

calcis was slightly necrosed at the point of the heel, just below the insertion of the tendo Achillis. There were also two small ulcers upon the foot; one over the metatarsus, near where the metatarsal artery crosses the foot, the other over the cuboid bone, at the point where the tarsal artery crosses it. I have no doubt but what the anterior and posterior tibials and peroneal arteries were injured, and the tarsal and metatarsal arteries supplying the parts defective, resulting in sloughing at the points mentioned. I believe the sloughing and necrosis at the heel was due to the same cause, viz., defective nutrition from the internal calcarean, and a branch of the peroneal, supplying the tissues at the point of the heel. A day or two after the removal of the box, it became apparent that there was an accumulation of pus on the outer side of the limb, near the seat of the fractures. I made an incision, and after evacuating the pus I introduced the index finger into the opening, and explored for necrosed bone or detached spicula. I found portions of the shaft of the tibia denuded of periosteum, and roughened, or apparently *necrosed*. I solicited consultation with a skilled surgeon to assist me in cutting away the dead bone. I at the same time told Mr. B. that an amputation might be necessary if we found the shaft of the tibia almost entirely destroyed. A consultation was agreed upon, and Dr. W. B. Fletcher, present Superintendent of the State Insane Asylum, selected. We were to have met at six—6 p. m. of September the 23d, 1884—but between the hours of three and five p. m. Mr. B. called in two homœopathic physicians. They condemned me roundly for lack of knowledge and neglect, and advised Mr. B. not to pay me, but to sue me for damages for malapraxis.

Mr. B. then refused to pay me, and I brought suit for my fees. He filed a cross complaint for one thousand dollars damages for malapraxis, charging me with neglect, lack of skill and surgical knowledge, and of producing the sloughs through the improper use of iodine and undue pressure on the heel. The trial took place March, 1886, about nineteen (19) months after the injury. The patient, Mrs. B., was produced in court after three different affidavits had been filed at different times, testifying to her total inability to appear in court without greatly endangering her life—the last of which was filed about four hours before she was produced. She testified that her general health was good, but she still had a small open ulcer at the heel. In my defence of malapraxis, it was shown that there had not been undue pressure upon the heel at any time, and that the sloughing at the heel and necrosis of the os calcis were due to the same causes that favored sloughing on the top of the foot, viz., shock and injury to the vessels and nerves. The homœopathic attendant admitted his inability to account for his failure to heal the ulcer at the heel, and admitted they had never searched for dead bone, but believed there was none there, as no spicula had become detached and come away during their eighteen (18) months' surgical experience on Mrs. B. It was also shown on trial that there had not been over two ounces of tincture of iodine in the house during the period I was her physician; and that iodine would not produce gangrene or sloughing, but was frequently used to prevent such accidents. It was also shown that if there was gross neglect displayed in the attention given to Mrs. B., it was at the hands of the homœopathic attendants, who, after treating the patient for nearly eighteen (18) months, had failed to heal the ulcer at the heel, and yet had never searched for dead bone, to learn whether that prevented the ulcer from healing. It was also shown that the *sequestra* might be partially covered up in *cloacæ*, or undetached portions of dead bone might be covered up partially or entirely with new osseous or fibro-cartilaginous formation, and the soft parts heal for the time being, or even for years, and then give trouble or destroy the entire shaft of a bone and necessitate an amputation, all of which might have been avoided if the dead bone had been removed at the proper time. The jury were out fifteen (15) minutes, and returned a verdict for one hundred and twenty-five dollars ($125) for services rendered, and setting aside the cross-complaint for malapraxis and one thousand dollars ($1,000) damages.

ON THE NUTRITIVE VALUE OF SOME BEEF EXTRACTS: AN EXPERIMENTAL INQUIRY.*

BY THOMAS J. MAYS, M. D.,
Of Philadelphia.

During the last seven months my leisure time has been principally employed in efforts to determine the nutritive value of some of our principal beef preparations, and I beg your brief attention this evening for the purpose of bringing the results of these researches before you.

* Read before the College of Physicians of Philadelphia.

That there is no idea so erroneous as to be wholly devoid of truth, nor one so true as to be wholly devoid of error, is an ancient maxim, and its truth is probably as well illustrated in the prevailing ideas of the nutritive value of the beef extracts as it is in anything else. A study of the extensive literature of the beef extracts shows the inconstant and indefinite opinions which have been held concerning their action, and also illustrates the fluctuations of thought which the medical profession is liable to undergo. Liebig, who was one of the first to invest this question with scientific interest, held no less than three different theories regarding their action, during the last twenty years of his life. In his *Letters on Chemistry*, published in 1851, he distinctly rates the beef extracts as nutriments, *i. e.*, as substances which are capable of supplying working force to the muscles of the body. In *Auerbach's Volkskalender*, page 148, published in 1868, and in his *Chemische Briefe*, issued in 1865, he expresses the opinion that they are merely condiments (genussmittel), and, hence, only act as stimulants to the process of digestion, and to the general nutrition of the body. Later, he conceived the idea that they are nutrients not only in the sense of supplying force to the body, but as furnishing material wherewith the bodily tissues are constructed. Since his death, however, medical opinion has by almost universal consent reverted to the second idea entertained by him, viz., that the beef extracts are of no, or very little, value as foods. It is true that this has been questioned by some whose clinical observations have led them to different conclusions, yet I do not know of a single work on physiology, therapeutics, or pharmacology, that does not assign the beef extracts among the non-nutritious alimentary agents. Probably the most positive expression of this feeling among those who are considered modern authority on such subjects is that of Dr. Fothergill in his *Hand-book of Treatment*, or *Principles of Therapeutics*, who, on page 537, says that, "as a food, beef-tea ranks low. It contains meat-salts, a small quantity of albumen, and a little gelatine, together with some advanced nitrogenized matters useless in histogenesis. But there is little in it to repair tissues, and less in it to sustain life, so far as our knowledge yet extends. There is little real force-bearing material in the protean compounds of beef-tea. For the starving fever patient, to give him beef-tea alone is almost to give him a stone when he asks for bread. It makes him feel better for the time being, but that is due to its stimulant properties."

There can be no doubt that the cause of the prevailing skepticism concerning the nutritive value of beef extracts is largely due to the experiments which were made by feeding animals exclusively on the preparations, with the result that all of them died within a short period of time. Indeed, Kemmerich affirms that they died more quickly than those which were left to die from hunger. This has the semblance of proof that beef extracts are not capable of supporting life. Sober reflection teaches, however, that no animal can subsist continuously on any single food, and that such a test would unceremoniously refute the food value of any substance, no matter how nutritive it might be. But, beset with difficulties as this investigation evidently is, the question is not whether these substances are capable of sustaining life alone, but whether it can be shown that they contain nutritive value at all, and if so how much. Here everything depends on the method which is employed to determine this question. It is imperative that this should be definite and exact. It must be able to show the functional state and condition of the organism, before, during, and after the addition of these substances; or, in other words, it must demonstrate whether the organism is or is not capable of performing work when these substances are added to it.

To meet all these desiderata, I selected the isolated frog's heart, which has already proved itself so pregnant with good results in the hands of Ludwig, Cyon, Kronecker, Bowditch, and others, in the full belief that it will show itself as capable here as it has in clearing up other problems in experimental physiology. Only quite recently, Prof. Yeo (*Journal of Physiology*, vol. 6, No. 3, p. 93), has succeeded in demonstrating with it the reduction of oxyhæmoglobin, a phenomenon the existence of which was assumed, but never proven by direct observation.

The experiences of Prof. Kronecker, Drs. Martius, McGuire, Von Ott, and others, show very clearly that when the frog's heart is well washed out with a 0.6 per cent. saline solution and then allowed to beat with the same, its pulsations gradually get less in force and in elevation, until at last in the course of an hour or two it becomes entirely exhausted and is unable to work any longer. But when this stage of complete fatigue is reached, and the heart is filled with blood or serum, it recommences to beat, and its pulsations gradually gather in strength and in elevation until their former altitude is attained. If, instead of with blood, the heart were refilled with the saline, or any alkaline,

acid, or even alkaloid solution, it would never show any sign of returning vitality. This observation means that the saline, alkaline, acid, and alkaloid solutions are devoid of material with which the heart can perform its function, and, although it works while it is filled with these solutions, it does so at the expense of nutritive material stored up in its own meshes, and not with any energy derived from these solutions. Indeed, Dr. Pohl-Pincus (see *Verhandlungen der Berliner Physiologischen Gesellschaft*, Feb. 23, 1883) has brought forward evidence which indicates that in the wall of the frog's heart there exist lacunæ (Nahrspalten) designed for the purpose of storing up nutritive material. As soon as this stored-up supply is exhausted, it ceases to beat, and any solution which is now applied to it with a view to re-establish its pulsations must contain some elements which are capable of nourishing it. These essentials are found in the blood and serum of most animals. Dr. Von Ott (*Archiv für Physiologie*, March, 1883) has also shown that milk has the power of nourishing the heart. And Prof. Ringer (*Journal of Physiology*, vol. vi., No. 6), in following the same line of inquiry, found that both albumen and gelatine are capable of sustaining the heart's contraction. In my own work on the nutritive value of different concentrations of blood, performed in the Berlin Physiological Laboratory under the direction of Prof. Kronecker (*pub. Verhandlungen der Berliner Physiologischen Gesellschaft*, Jan., 1883), I found that the amount of work of the frog's heart performed with blood depends entirely on the degree of dilution of the latter agent. Dr. McGuire found, however, that 1 : 3—*i. e.*, one part of blood to three parts of saline solution—gave the best results.

In summing up the literature upon the action of the frog's heart in its relation to our subject, we find the following: That the heart in performing work consumes oxygen; that after it is once completely exhausted, it cannot resume its pulsations unless food energy is supplied to it from the outside; that blood, serum, milk, albumen, and gelatine are capable of acting as foods and of restoring its power of contraction, but no other substances have, heretofore, been shown to possess this property; that the pulse elevations and the amount of work which the heart is able to do, depend in a great measure on the degree of concentration of the food. These data, moreover, demonstrate very fully that the heart does not exercise the function of a purely circulatory organ in these experiments, but that it is an organic medium possessed of the power of assimilation, of transformation of energy, of contraction, and of respiration.

(*To be continued.*)

HERNIOTOMY.

BY C. D. CHALFANT, A. M., M. D.,

Of Streator, Illinois.

In a recent issue of the MEDICAL AND SURGICAL REPORTER, some extracts from the paper read by Dr. Hyde before the New York State Medical Society, and remarks following by Dr. Gouley, bring to mind some reminiscences of practice which most fully verify the conclusions therefrom deduced.

It has been my fortune to meet with more cases of strangulated hernia than usual in the rounds of a general practice, and among this number it is my desire to report two cases in brief, one occurring several years ago, and the latter during the month of November last.

Case 1. Mrs. L., aged 55, was taken with slight pain in stomach; no pain in lower bowel; had similar attacks before, ascribed to indigestion. Careful inquiry as to having rupture or pain in inguinal region, elicited a negative reply. No evidence whatever pointing to hernia other than occasional pain in stomach. By chance, previous to leaving the patient, having some doubt as to diagnosis, my hand came in contact with a small tumor in right groin, size of filbert, and on inquiry found this little glandular enlargement had been present for thirty years. Although it had none of the characteristics of a hernia, yet I expressed a fear that such might be the fact. The husband, an educated gentleman, expressed surprise at my extremely pessimistic views of the case, and I asked for a council of at least two physicians, which was granted. Dr. McMan, of Gardner, and Dr. Bannister, of Odell, Illinois, were called, both gentlemen of good surgical ability, and with whom I had operated for hernia several times.

An exploratory puncture was made with negative results, and the severity of the symptoms not increasing, my colleagues were very positive I was in error, and a favorable prognosis was given.

Two days later patient was seized with stercoraceous vomiting, collapse, and death. Post-mortem developed small tumor immediately over inguinal canal, probably an enlarged gland, small piece of omentum, and

the smallest convolution of intestine possible, strangulated with it just beneath tumor.

Case No. 2. Mr. B., aged 40, had suffered for years with immense protrusion through inguinal canal into scrotum, and no appliance whatever would afford relief. On the literature of trusses and all the methods of cure he was an authority. He gave up his business to attempt a cure by the Heaton method, and moved to the city to be in proximity to the medical gentleman who was to undertake the case. Six months' injections of iodine and fl. ext. quercus alba had served to benefit him some in diminishing the protrusion, but hearing of the subcutaneous method of wiring the ring, he sought the services of a specialist in this direction, and six weeks later, after congratulating himself as well at last, the wire broke, severe pain and vomiting seized him, and I was summoned, with Drs. Minor and Hess, of this city, to reduce it. Taxis, which had previously always been successful, failed. Operation found groin full of cicatricial tissue, The scrotum was invaginated in the ring in placing the wire, which was found broken in three pieces and removed. Intestine and omentum returned and wound closed. Vomiting recurred and persisted; internal strangulation diagnosed, and laparotomy was apparently the only chance of saving life.

Dr. Edmund Andrews, of Chicago, was called into the case. Inguinal wound was opened up again, thinking a protrusion from vomiting, the after-effects of anæsthetic, might be the cause. Laparotomy was considered, but deferred. Vomiting again occurred, and persisted for three days, when irritability of stomach ceased and patient rapidly convalesced. Had operation been undertaken in first case, recovery would have been probable. Laparotomy in last case after the previous operations would likely have been fatal.

The deductions I wish to draw from these and other cases are as follows:

1. Strangulated hernia is not always easily diagnosed.

2. Operation is generally delayed too long. Many cases are allowed to die, and no operation undertaken for their relief by otherwise reputable surgeons, who magnify the dangers of the operation *per se*, which is criminal neglect.

3. What position, hot bath, and anæsthesia, with gentle taxis, will not accomplish in a very short time, had better be done by operation. Interference, and violent taxis, as often practiced, is condemnatory.

4. The Heaton method, and the plan adopted by some of wiring the ring subcutaneously, may be successful, but has not been so under my observation; yet it may deserve a more extended trial, for he who would devise some plan to permanently and safely relieve the ruptured would be a benefactor to mankind.

ACONITE POISONING.

BY M. STEWART, M. D.,
Of Vesta, Neb.

An interesting case of aconite poisoning came under my professional care recently, and I beg the privilege of reporting same, as it may prove of interest to some.

E. S. R., male, aged 50, of a naturally strong constitution, but still suffering from the effects of paralysis of left side about seven years ago. The shock to the nervous system was very great, especially to the pneumogastric of the left side, which, as a matter of course, seriously deranges the many organs which it supplies. His dyspnœa at times is very great, as a result of irritability of heart and organs of respiration. At time of the following event, he was just recovering from an aggravated attack of his heart and lung complication.

On the morning of March 29, thinking he had caught cold, he requested to be given a vial containing tr. aconite, that he might break it up, as he thought; but, having only a vague idea of the strength of the drug, he took nearly a teaspoonful. In about fifteen minutes he began vomiting severely, having a terrible nausea and constriction of the fauces.

In about half an hour I arrived, and attempted to administer an antidote per orem, but found it impossible to get him to swallow anything, let alone retain it. The pulse at wrist could not be felt, and during the act of vomiting he would sink into an unconscious state, with a partial rigidity of all the voluntary muscles. He would remain in this condition from a few seconds to as many minutes, during which all heart action would apparently cease; then he would revive, to again relapse when the exhaustion attendant upon acts of vomiting was repeated. At this time the pupils were largely dilated, great incontinence of urine, speech of a thick, husky character, and restlessness very great, no position being satisfactory for two consecutive seconds.

I then injected a drachm of fl. ext. of digitalis in his arm, and continued every half hour the alternate injection of the digitalis

with whisky and carbonate of ammonia. In about three hours the pupils began to contract, and vomiting and nausea were diminished somewhat, but dyspnœa and constriction of fauces continued to be very alarming.

In about five hours from time of taking he was able to sleep a little, and began to recover rapidly, with occasional attacks of nausea and vomiting. He made a quick recovery, next day being able to sit up and take a good meal with the rest of the family, and no bad results are left, with the exception of an ugly swelling resulting in a slough the size of a silver dollar, where the hypodermic syringe was used on his arm.

In connection with the weak, irregular heart which the patient has, the wonder is that a direct synergist to that condition like the poison did not completely paralyze the heart.

Medical Societies.

THE PHILADELPHIA NEUROLOGICAL SOCIETY.

(*Continued from page* 554.)

Stated meeting, December 28, 1885.

Dr. Guy Hinsdale presented a communication on

The Methods of Slaughtering Animals at the Philadelphia Abattoir.

There has recently been put in my hands a series of written questions which relate to the methods of slaughtering animals in our Philadelphia abattoir. The subject has been brought before the Society for the Prevention of Cruelty to Animals, and the officers of the Society desire to obtain from some of our Philadelphia physicians an expression of opinion as to the proper method of killing cattle with the minimum of pain.

As doubtless the members of this Society are aware, enormous numbers of cattle, sheep, and pigs, are slaughtered at the abattoir in West Philadelphia. Into the main half of the building, which is spacious, having a high roof, with good light and ventilation, the cattle are led in large numbers. They are apportioned to about fifteen different pens or iron cages arranged in a straight line, each capable of receiving seven or eight bullocks. The iron bars of which the cages are made are separated about fifteen inches from each other, affording a comparatively unobstructed view of the remainder of the room. The gate of exit from a pen is opposite the gate of entrance; above it is the windlass for hoisting. The animal is, in most instances, struck down while standing among his fellows, by a butcher who stands on a plank above him armed with a heavy, long-handled sledge-hammer. He is then hoisted by the windlass through the open door, is disemboweled, and dressed for the market within six feet of the animals remaining in the cage. When the carcass is ready for market one of the butchers climbs above the cage, and with the hammer strikes down two more animals; they are dragged out, and so on until all the animals are disposed of.

The Jewish butchers for ages have killed by bleeding. They never use a hammer, but after hoisting the animal by a hind leg, the throat is always cut by a rabbi or "shockem," armed with a keen sabre. This rabbi is detailed for duty at the abattoir.

Underneath the main hall is a cellar in which sheep and pigs are slaughtered by the knife. It is a dark, unclean, repulsive place. Large quantities of accumulated gore are seen in the places where the animals are usually killed. The surface drainage is very bad; the upper floor, though deluged with blood, is attractive in comparison.

The questions to which answers are desired by the Society for the Prevention of Cruelty to Animals are these:

1. Does the Israelitish method produce a total loss of sensation?

2. Does a total loss of sensation arise from a blow struck upon the head of the animal with sufficient force to knock him down?

3. What is the most humane way of slaughtering cattle, which would produce instantaneous death?

4. Do you think a bullock is so sensitive as to suffer terror or agony in witnessing the death-blows and sufferings of his companions?

With a view to satisfy myself on these points, I made three visits to the abattoir. I had no especial interest in the subject before, and supposed that the methods were not open to criticism.

As for the first question, I think it safe to say that the Israelitish method is instantaneous when once the steel strikes the neck. The blood gushes out, the brain is instantly deprived of blood, and consciousness is lost without appreciable loss of time. The young rabbi deserves credit for the skill with which he performs this operation. To suspend animals with heels up and head down is, at first sight, somewhat harsh, but, on the other hand, they are accustomed to a low position of the head, and the new position is only ninety degrees removed from the normal.

Regarding the second qnestion, it appeared to me that consciousness did not always cease when a blow was struck upon the head of an animal with sufficient force to knock him down.

The first two animals that I saw killed were struck on the head, in the middle line, a little anterior to the line of the insertion of the horns. They instantly dropped; a few convulsive movements, sometimes unilateral, sometimes general, occurred, and they were removed from the cage. The next three animals were struck by a different man. Two animals were struck eight times apiece, and the other nine times, before the butchers saw fit to proceed to dress the beef. Although the earlier blows were ineffectual, the later ones were delivered when the animals had lost sensation, and when the convulsive movements appeared too violent. In other instances one, two, three, or four blows were required. Animals were partially struck down, and did raise their heads and look about, unquestionably conscious of pain. The ox is not by any means the only animal that may preserve consciousness after being struck down by a blow upon the head. We ourselves may know this from personal experience. However, one blow well applied was sufficient, perhaps, in the majority of instances, to instantly destroy sensation.

Two other cattle which I saw killed at my third visit were attacked by a third man. The first received three blows upon the head, but still the animal walked about, and it became so difficult to induce him to stay still in proper position (the unreasonable creature!) that the butcher resolved to devote his attention to another animal, upon which, also, he delivered three heavy but ineffectual blows. I noticed by this time that the first animal was bleeding from the nose, and that both were able to walk about. This heavy hammer would sometimes bound from the skull as you might expect a wooden mallet to do. The animals gave no cry, and made no violent demonstration, as one might expect; they received these murderous blows as a prize-fighter might receive his, without evincing pain. They however, became uneasy, endeavored to avoid the man crouching above them, and, without much trouble, were finally dispatched. As to whether a bullock is so sensitive as to suffer terror or agony in witnessing the death-blows and sufferings of his companions, interesting metaphysical questions are involved. Butchers in the abattoir do not seem to think that the animals are conscious of their surroundings. They say they occasionally milk a cow in a cage near which animals are being slaughtered. It is quite evident that, as a rule, bullocks make no attempts, or the most ineffectual attempts, to avoid the fate of their companions. In one instance which came under my observation, the last of a series of bullocks became frightened; he dodged the blows, put his head through the bars, and held it low, out of the reach of the butcher standing on the top of the cage. Men with sticks poked him about, while inaccurate blows fell upon his head, until, after a disgusting struggle, he was dispatched. This animal seemed to me to act at the start as though he appreciated danger from witnessing the death of his companions. Butchers say that Texan steers give more trouble than others, and are more liable to grow wild at the sight and smell of blood. It cannot be that their mental powers are radically different from those of other varieties of oxen.

It is not necessary to repeat before this Society anecdotes or proofs to show that a steer may become frantic at the sight and smell of blood. Carnivorous animals are not so susceptible. A dog may even eat another dog, as one of our proverbs says, and yet some dogs are capable of sympathy, and exemplify it by appropriate behavior. Not only the elephant, but even so small a creature as the ant, manifests sympathy.* The sense and the understanding are the prerogative not exclusively of man. These lower animals have attention, memory, association. They exhibit generosity, gratitude, courage, caution, patience, industry, anger, and grief.

Doubtless the ox or the sheep or the pig cannot claim the possession of all these qualities. But their mental system is much less perfectly understood than ours. "The popular tendency has been to underrate the acquired knowledge of animals, if not to ignore it altogether. At present we are not in a condition to dogmatize, owing to the want of proper observations on the whole department of brute intelligence."† As Lander Lindsay puts it, "the very terms animality and humanity are, on the one hand, unnecessary distinctions; while, on the other, they are generally wrongly applied, for there is more animality in man and humanity in animals than our self-conceit will permit us willingly to recognize. We cannot correctly speak of the animal in contradistinction to the human mind, inasmuch as mind is essentially the same in other animals as in man, differing simply in the degree of its development and the mode of its expression."‡

* Romanes, Animal Intelligence, p. 47.
† Art. Instinct, Chambers's Encyclop.
‡ Journal of Mental Science, April, 1871.

But what can be done to remove the objectionable features of this necessary work of slaughter?

In the first place, the work of killing these animals should be given only to a man of experience and power.

2. It is not necessary, and it should not be permitted, that animals should witness the death of their fellows. They may wait their turn together, but finally should be led to an apartment alone, where a single successful death-blow may be given.

3. Means should be provided for making this blow unerring. A crushing blow on the brain-case is, undoubtedly, a painless death, and, by a mechanical contrivance, this might be made unfailing. Fixation of the head would be necessary, and perhaps could be accomplished by means of the horns. An experienced executioner, with an adequate instrument, either in his own hands or under his control, as a trip-hammer is under the control of a forger, would then dispatch these poor brutes with the minimum of pain.

4. The number of men who perform this work should be small; and boys, women, and the public generally, should not be permitted to witness these brutalizing scenes.

5. The Jewish method, when rapidly performed, is, on the whole, not a cruel method.

6. The city should take immediate steps to supervise this abattoir; it should have an official inspector of meat, and adopt some effectual scientific method for the detection and condemnation of diseased meat.

If this Society will endorse these statements, I believe that a better state of things can be secured. If proper evidence can be adduced, the Society for the Prevention of Cruelty to Animals will take hold of the matter, and insist on reform in this important public institution.

Dr. Charles K. Mills moved that a committee be appointed to visit the abattoir, and report to the Society on the questions proposed by the Society for the Prevention of Cruelty to Animals.

The committee consisted of Drs. H. C. Wood, H. A. Hare, F. X. Dercum, A. P. Brubaker, and Guy Hinsdale.

Stated meeting, January 26, 1886.

Dr. John H. Musser presented some

Notes on Thirteen Cases of Tubercular Meningitis. (*See page* 591.)

Dr. William Osler then read a paper on

The Structure of Certain Gliomata.

He desired to call attention to the histological character of certain brain tumors which present peculiarities of structure separating them from the ordinary small-celled gliomata.

The specimens which he showed were from three cases, the features, clinical and anatomical, of which may be thus summarized:

Case I. Girl aged sixteen, blind from third year; intelligent; head not large. Occasional convulsions and spasms of muscle of neck. Death sudden. Tumor occupied the surface of the left thalamus, and extended into the third ventricle. There was extensive dilatation of the lateral ventricles.

Case II. Girl aged fifteen. Jacksonian epilepsy for over fourteen years. Small, firm tumor occupied the upper part of ascending convolution.

Case III. Man aged forty. Head pain, mental disturbance, drowsiness, the chief symptoms. Tumor, the size of a lemon, occupied left anterior lobe of brain.

The physical characters of these three tumors differed considerably. In case I. the mass on the thalamus was firm, but the portion projecting into the third ventricle was soft, grayish in color, and looked like an actively growing neoplasm. In Case II. the small tumor at the upper part of ascending frontal convolution resembled a patch of sclerosis; while in Case III. the tumor had a large central area of fibro-caseous change, with a peripheral zone of actively-growing grayish-red tissue.

Histologically these tumors are similar in the dense feltwork of fibres which make up the chief mass of each, the fibres varying somewhat in thickness and in closeness of arrangement. Careful observation of teased specimens shows that the fibres are, for the most part, in connection with cells, and so far the growths conform to the type of glioma. True, we do not find here the typical arrangement of small cells with delicate protoplasm and numerous fine ramifying processes, which gives to many gliomas an appearance not unlike that of a small-celled sarcoma. There are gliomata, however, with larger and more irregular cells, and with coarser fibres than the description in textbooks would lead us to suppose, and it was to certain characters in the cells of these tumors that he wished to call attention. A study of teased, fresh specimens can alone give a clear idea of the shape, size, and relations of the cell elements.

The following varieties of cells occur in these growths:

1. The ordinary "spinnen," or spider cell, with many processes, and which may be regarded as the characteristic cell of the glioma. These present a considerable variation in size; many are not larger than colorless

blood corpuscles, others double or treble the size. The smaller have more delicate processes which in sections of hardened specimens may not be apparent. Some of the larger of the cells look not unlike multipolar nerve cells.

2. Large, unbranched, spindle-shaped cells, with greatly elongated processes. These resemble enormous connective tissue corpuscles, and the processes may be traced until they taper to extremely fine fibrils. Others are scarcely spindle-shaped, but present flat, ribbon-like processes. Some of these cells are among the largest and most remarkable met with in tumors. In Case 1, the mass in the third ventricle was composed largely of them, and isolated ones measured as much as 0.4130 of a millimetre. They present usually single large nuclei, and the protoplasm of the cell is either homogeneous or finely granular. In Case 3 these forms were also very abundant, but in Case 2 they were not numerous.

3. Cells which resemble closely in appearance large ganglion cells of the nerve centres. They present a dark granular protoplasm, large nuclei, and one, two, or more processes, which either run singly or finally branch. The most remarkable-looking are those with a single process springing from a balloon-shaped cell. Others have a process from either end of the cell body. They are usually much larger than the spider cells.

4. In Cases I. and III. there were structures of very curious aspect, which probably may be regarded as derivatives of the large fusiform-shaped corpuscles. These were remarkably translucent, band-like fibres, tapering slightly at either end, but without nucleus or granular protoplasm. From their close resemblance in form to the spindle-shaped cells, and from the fact that these latter often present a remarkable translucency, I think we may regard these peculiar fibres as resulting from a vitreous or hyaline transformation of the large spindle cells.

These tumors conform to the variety described as neuro-glioma by Klebs, who holds that the large ganglion-like cells found as such important constituents of these growths are derived directly from the nerve cells of the gray matter, and that in the development of this variety all the elements of the nerve tissue participate. Certainly the resemblance between many of the large cells and nerve elements is very striking, but I have not been able to satisfy myself of their relation to the pre-existing tissue parts. This is, of course, extremely difficult, but in a careful study of sections taken from the advancing regions of the growths, I have not met with appearances which would lead me to suppose that the nerve cells were in process of proliferation. Klebs states that he has demonstrated by means of osmic acid and gold chloride the nature of the cells and their processes, but this has not been confirmed, and I could not determine that the cells or fibres described above behaved in a characteristic manner with these reagents. That they are probably connective tissue elements seems probable from an examination of a large number of the cells in teased preparations. Gradations and intermediate forms can be seen between cells closely resembling unipolar or bipolar nerve ganglia and the typical spider cells with innumerable processes. Gliomata of this form are not uncommon. Klebs described fourteen or fifteen, and of five cerebral tumors of the glioma type which I have met with, only two were of the small-celled variety.

Dr. Wharton Sinkler reported

A Case of Brain Tumor.

Miss S., æt. fifty-two. Mother, maternal grandfather, great grandfather, two maternal uncles, and two brothers died of phthisis. Paternal ancestors long-lived. No cancer. Healthy and well up to four years old. Then had a serious illness spoken of by some as "brain fever;" another person says dysentery. Seemed to recover entirely from this, and was bright, well, and agreeable. Was not very intelligent mentally, but not by any means deficient. Catamenia first appeared at eighteen years. At seventeen years friends noticed a change in her; she was irritable, cross, and peculiar about many things. This condition of things continued through the remainder of her life, all the peculiarities becoming intensified. She was a great reader and a great eater. She was fond of literary pursuits, and spent a considerable amount of time in writing and painstaking composition. She never had convulsions as far as known. At twenty-five years she was examined as to her mental condition by Dr. Wm. Kirkbride, and he decided that, although not mentally vigorous, she was not insane.

For five or six years before her death, say forty-five years of age, she seemed to grow stouter, less inclined to work, and in walking seemed to move slowly and with difficulty. For three or four years before her death there was a drooping of the left corner of her mouth, most noticeable in smiling or speaking. This gradually increased. For eight or ten years she has had headaches.

In the summer of 1885, she was at Atlan-

tic City and had two or three attacks of violent headache associated with unconsciousness. These lasted several days at a time. She came under my charge in September, 1885. She then showed slight left facial paralysis, but no loss of power in arm or leg of either side. She complained sometimes of pain in the head, sometimes in the shoulder or neck. Seldom seemed to have persistent pain in one place. She had an attack of unconsciousness with severe headache. Screamed with pain, but could check herself, and when asked what was the matter said she had pain, but could not state exactly where it was. At times she talked incoherently, and spoke of having seen persons whom I knew she had never seen. She was unwilling to leave her bed, but if she could be persuaded to get up, could walk about. Her appetite was good, but there were indigestion and constipation. No vomiting. Vision seemed good, but the eye-ground was not examined. She was eccentric in her way of talking, and said many things with the evident intention of creating surprise.

At my suggestion, she was taken to a country town in the vicinity of Philadelphia and was there under the care of Dr. J. Reeve. After reaching this place she complained of pain in the right side of the head and seemed unable to walk. Would fall into a semi-unconscious condition which would last for some hours. The temperature became elevated. The facial paralysis became more marked, but although no paralysis of the limbs there was general muscular weakness. The patient died on October 26, 1885.

The post-mortem examination was made by Dr. H. R. Wharton. Brain and cranial cavity: Upon exposing the membranes of the brain they were found markedly congested, and the dura mater was very adherent to the petrous portion of the temporal bone on the right side. Brain removed, membranes divided and turned aside. Upon left side there was no apparent lesion. On the right side some bulging of the membranes was apparent in the region of the fissure of Silvius, and upon dissecting them off they were found very adherent to a tumor larger than an English walnut, growing from the fissure of Silvius about the line of the fissure of Rolando. The tumor was dead red in color, stood out from the brain tissue, and was dense to the touch. There was some effusion in to the ventricles.

Dr. de Schweinitz made a microscopic examination of the growth, and sent me the following report:

"The small portion sent for examination was hardened first in a solution composed of Müller's fluid one part, and methylic spirit three parts, for six weeks, and then in alcohol. Sections were cut, stained with carmine, and mounted in balsam. In the periphery the growth shows a structure composed of more or less perfectly developed fibrous tissue; more interiorly the stroma of the tumor is made up of numerous, varously sized, dilated blood-vessels, sometimes empty, but for the most part filled with corpuscles. Between these are numerous small round and large spindle cells (sarcoma tissue) scattered through the growth, sometimes singly, often in groups; they are round, yellowish-white bodies, which are probably amyloid in their nature. The tumor may be properly classed as an *angio-sarcoma*."

The growth, as may be seen, is spherical in shape and springs up out of the fissure of Silvius. The points of interest in the case to me are these: First, the probable long-standing of the growth. It is likely that it began at the age of eighteen years, when mental peculiarities first showed themselves. Secondly, the absence of most of the symptoms peculiar to brain tumor. There were no convulsions, no vomiting, no defects of vision, and no pain localized in one particular spot. The facial paralysis was not noticed until three or four years before death.

There were many marked hysterical symptoms which masked the true nature of the disease. These, I think, are often met with in brain tumors in women.

Dr. H. C. Wood reported

Two Cases of Syphilitic Disease, the Lesion in One Involving the Ascending Frontal Convolution; in the Other, the Cervical Spinal Cord.

The first of these cases is of a special interest, because so far as the motor symptoms are concerned, the situation of the lesion closely agrees with the modern doctrine of cerebral localization, whilst no lesion was found to account for the loss of sensibility. The only explanation that could be given of this is that disease had existed in the membrane over the angular gyrus, and had been removed under the influence of the mercury, there being no record as to the condition of sensation just previous to death. This explanation seems, however, rather lame, because more distinct traces of such lesion would naturally be expected. The cases are also of interest as illustrating a danger which always overhangs a person suffering from syphilitic epilepsy—namely, possible arrest of respiration during the convulsion, and consequent death.

Case I. R. B., male, aged fifty, entered the Nervous Ward of the Philadelphia Hospital, January 2, 1885. The following extract is taken from the case-books of the institution: "R. B. says that his health has always been good, and whilst acknowledging that he had chancres twenty-five years ago, denies all other forms of venereal disease. Eight years ago he fell downstairs and struck his forehead just above his left eyebrow; he was picked up unconscious, and remained in that condition for four hours. One week after his fall he returned to work, but was troubled with a feeling of lightness in his head and vertigo. About two weeks after this he suddenly felt a peculiar pricking sensation in his right foot, which extended rapidly up the leg to the thigh, and finally to the right arm, and thence to the head, and was immediately followed by unconsciousness. He has never bitten his tongue in this or any subsequent attacks. The convulsion was followed by a period of stupor or sleep. About two weeks after, there was a second epileptic attack without any aura or other warning. His arm, which had continued in a numb condition ever since his fall, for a time grew steadily worse. For one year its condition then remained unchanged. He still had epileptic attacks at intervals varying from a few weeks to a few months. Eighteen months ago he had an apoplectic attack, in which the unconsciousness lasted for several hours. There was no ensuing paralysis; nor did his health seem to be the worse for the sickness. He states that he now has at about monthly intervals attacks of epilepsy. These attacks are preceded by a peculiar twisting of the fingers of the affected hand, and followed by stupor or somnolence, lasting for about twelve hours.

Present Condition.—There is partial motor paralysis of the right hand and arm. With the left hand he moves the hand of the dynamometer to 95; with the right only to 30. The æsthesiometer points, separated to their widest, are felt on the right hand and arm only as one; on the left arm the points are separated on the ulnar and radial side at two and a half centimetres apart; on the palmar surface at four centimetres. He has not as good use of his left leg as formerly, although there is no complete paralysis of any of its muscles. Patella tendon reflexes normal. Ordered potass. iodide in ascending doses.

Treatment.—January 6, 1885. According to statement of nurse, in his fits the patient works altogether with right side. Left pupil slightly smaller than right. Perceptible weakness in right face. Dynamometer: right hand, 46; left hand, 87. In neither thigh is there any difference in sensitiveness. He complains a good deal of frontal headache. Edges of the optic disks sharply cut, and optic disk itself abnormally white, believed to be atrophic. Ordered to be ptyalized.

The patient was ptyalized, and afterward was given the iodide very freely; but notwithstanding there was distinct improvement in regard to headache and general condition, the fits continued, although at longer intervals, and on the ninth of May there was prolonged unconsciousness after a fit, ending in death.

Autopsy.—Contents of thorax normal, except as to congestion; liver is large and congested, indurated, capsule thickened. In the tissue between the right and left lobes, anteriorly and near the lower edge, is a distinct gummous tumor of the size of a hickory-nut. The new growth has developed from the capsule and grown inward. Upon the upper border of the same fissure and posteriorly is a scar, evidently a healed gumma. Kidneys congested, but otherwise normal. Rest of organs normal.

Brain.—When the skull-cap was removed some ounces of black blood ran out. Membranes much congested everywhere. Dura mater normal, except in being abnormally adherent to the edges of the great fissure.

Left Hemisphere.—Arachnoid and pia mater abnormally thick, especially superiorly, and somewhat opaque. Vessels somewhat congested. On external inspection of the bared convolutions, nothing abnormal is observed, except about the middle of the ascending frontal convolution, where at a spot one-half inch in diameter the membranes were fused with the brain surface, and could not be separated. The tumor is one-third of an inch in thickness, and in tearing it out a definite cavity was left. No other lesion discoverable in any part of that hemisphere. Remainder of brain normal in general structure.

Cause of Death.—Edema of the brain from cerebral syphilis.

Case 2. Cadamoni, aged about twenty-two, entered the wards of the Philadelphia Hospital, June 1, 1885. As he was an Italian of very low order of intelligence, no detailed history of his case could be obtained. He stated, however, that he had been well and strong until three months before, when he had been hurt in the upper part of the back, and had not been able to work since. One month before entrance he had rapidly lost power in both arms.

His condition at the time of entrance to the hospital was as follows: He was unable to stand, and entirely confined to bed, but can make feeble and slow movements of the thighs, legs, and feet; all muscles seeming to be about equally implicated. The whole of the left arm is paralyzed, except the thumb, which can be moved slightly. In the right arm the deltoid and the flexors of the fingers are much wasted. There is no paralysis of the face; patient cannot turn in bed, but has not lost control of the bladder and of the rectum; sensation is not much affected; pain is complained of in the back and side of the neck and in the limbs, especially in the arms; marked pain in the sternal region on coughing. Pressure of the lower cervical vertebræ causes severe pain, and forcible jarring of the head also produces pain in the lower cervical spine; cervical vertebræ not distinctly prominent; patella reflex somewhat exaggerated; temperature normal; bowels persistently very costive.

The patient was put upon a water bed; iodide of potassium given in rapidly increasing doses, until a hundred and eighty grains a day were taken; but the symptoms gradually increased, paralysis became more marked in the lower extremities, and complete in the arms; power over the bladder and rectum was lost, and the patient died June 18th, seventeen days after his entrance into the hospital.

The autopsy was confined to the vertebral tract. In the lower cervical region, extending into upper dorsal, was a thickened mass, several inches long, not at all separable from the membranes of the cord. The outer portion of this is formed of a uniform structureless base, filled with numerous long, narrow, curved cells, evidently derived from connective tissue. Within this, the mass is chiefly composed of innumerable small, round, closely-packed cells; sometimes arranged in irregular, diffused masses, but in many cases collected into globular masses, which are only in rare cases distinctly separated from surrounding tissue. A few of these masses were yellow, the cells evidently undergoing fatty degeneration, and not taking staining at all.

Cord underneath the tumor chiefly composed of a structureless, minutely granular, neuroglia matter, with numerous roundish neuroglia cells. No nerve tubule discoverable in section. Gray matter affected nearly as much as white: ganglionic cells still present, although most of them much altered.

The following report was made by the committee appointed to inquire into the

Methods of Slaughtering Cattle,

and the question as to whether cattle suffer from witnessing the slaughtering of companions:

Your committee have the honor to report that they held a meeting at the Philadelphia abattoir, and witnessed the slaughter of a number of cattle. As the arrangement of the building and the methods employed have been fully described to the Society in the paper of Dr. Hinsdale, it does not seem necessary for your committee again to go over this ground; and the committee confine their report to answering the questions proposed by the Society for the Prevention of Cruelty to Animals. We find, in the first place, that, owing to the unskillfulness in the use of the hammer by the butchers, perhaps in the majority, certainly in a very large proportion of the casee, the animal is not rendered permanently unconscious by the first blow. In a number of instances, the creature when struck either failed to fall, or simply went down upon his knees and rose again, and had to be driven around the pen, and sometimes struck again and again before falling. Further, it is the habit of the place to strike down several bullocks one after the other, so that one or two of the animals must lie on the ground some time before the throat is cut. In very many instances the creature seems partially to recover its senses during this time, and in some cases undoubtedly becomes perfectly conscious, and even gets upon his feet. There can be no doubt, therefore, that a large amount of unnecessary suffering is produced in the killing as practiced at the Philadelphia abattoir.

A properly directed and sufficiently powerful blow undoubtedly will immediately put an end to consciousness. It is not the general idea of the method of killing which is at fault at our abattoir so much as the unskillful way in which it is performed. If the animal were driven into a narrow pen, so as to insure quiet and a perfect opportunity for a blow; and if, at the same time, the hammer were heavier than the one now used, and were only employed by a skillful person, nothing more could be desired. In our opinion, there should be one man whose sole duty it is to strike down the animals, since only by repetition can perfect skill be required.

We believe that there is a certain amount of psychical suffering induced by the present method. The animals evidently have a sense of danger, although they apparently do not recognize the point from which the danger is coming. The need for the appointment of some one who shall inspect the carcasses of

the slaughtered animals was very well shown by the fact that, in one of the beasts killed during our stay, the liver was full of hardened nodules of a whitish color, and many of the lymphatic glands were evidently affected with the same disease. So far as gross appearances could determine, the animal, when killed, was in the advanced stages of tubercular disease of the liver. The nodules have been referred for examination to well-known microscopists, whose report we hope to hand in accompanying our own.

After the reading of the report of the Committee, on motion it was accepted, and the Committee were requested to present the matter, on behalf of the Neurological Society, to the College of Physicians of Philadelphia.

Notes of Thirteen Cases of Tubercular Meningitis.

By J. H. Musser, M. D., Physician to the Philadelphia Hospital.

All of the cases were observed in private practice, hence the lack of detail of symptoms, such as temperature, etc. They occurred in a period of six years. Nine of them were in the writer's private practice, two in institutions under his care, and two in the practice of medical friends. It may be considered a disease of frequent occurrence, for the relative proportion of its frequency to that of many other diseases, as forms of liver disease, is much in excess. The nine cases occurred in a practice ranging from 50 to 400 families yearly, during the six years. For every case of tubercular meningitis, the writer has had twenty-five of phthisis. During the same period one case each of tubercular peritonitis and interstitial tuberculosis have been under his care. In later years the disease has been less frequently seen, corresponding with the social improvement of the practice. In the first half, six cases were observed. In the latter half, the remaining ones. The mortality table of the "Homes" to which the writer has been physician, present some very interesting features in this connection. In one Home of 180 boys, aged from three to sixteen, and 30 adults, but three cases of tubercular meningitis occurred in five years. In a Home for 24 colored children of both sexes, mean age seven years, the disease was not observed in four years. In a third Home for children of both sexes, about eighty in number, in the records of twelve years, no death occurred from this disease. During the same period of observation of these nine cases, five cases of hydrocephaloid disease, one of cerebro-spinal meningitis, and two of syphilitic meningitis, were observed.

Causes.—Seven of the cases were males, and six females, making six of no causal influence. The ages ranged from seven months to fourteen years in twelve cases. One was thirty-two. Six of the patients were under five years, four between five and ten, and two between ten and fifteen. The ancestors of nine had tuberculosis in some form. In two other instances the children of the same generation had some tubercular affection. In only two cases was there no antecedent or coincident history of tuberculosis in the family. One of the patients, aged seven months, was nursed by a mother whose tubercular disease antedated her pregnancy.

The hygienic surroundings in the large number of cases were quite fair. Two alone could be pronounced as bad. One child had been weaned early in life, and improperly fed. The previous health of all save one or two was bad. Some remote local inflammatory foci, either of simple or specific nature, could be determined. In one, aged fifteen months, the bronchial and mesenteric glands, after a whooping-cough or diarrhœa, were diseased; asthma and bronchitis, with enlarged bronchial glands, no doubt, preceded in another; hip-joint disease, suppurating cervical lymphatics, chronic bronchitis, and phthisis, respectively, preceded in four cases. Very poor health in one instance, and "weak" lungs in another, also preceded. In one, the health had apparently been good; in two the state of the health was not noted. Exposure to the sun was thought to be the cause of the twelfth, but the lad was always fragile, and had diarrhœas. The nursing baby completes the list—she was always delicate.

Clinical Course.—In general, it may be said to be irregular. In six cases the periods of invasion, excitation, and depression could be traced. In two instances the stage of invasion, or the premonitory symptoms, was absent entirely. In the other cases the stages were "mixed."

The following summary indicates the mode of development of the entire series. Case 1 was a girl aged sixteen months; antecedent cause, whooping cough and tabes mesenterica; slight general spasm, followed in a few hours by convulsion of right side of body, with aphasia. In case 2, boy aged four, with asthma, etc., there was loss of flesh for four weeks, intermitting headache ten days, vertigo three days, was peevish and restless at night. Case 3, girl aged ten years, had for one year headache and vertigo, extreme emaciation, cerebellar tumor.

In Case 4, there were loss of flesh, debility, restlessness, and poor appetite for several weeks. The course of the fifth was not known, while the sixth had been ill ten days definitely; for a brief time loss of flesh with pain in the left temple, sleeplessness, and constipation had been present. Sharp paroxysmal headache tormented the seventh case, a youth of nine, for three days prior to the meningitic explosion. Until twenty-four hours before very active symptoms occurred, the eighth case, an infant under two years, was considered in perfect health. Prolonged lassitude, fretfulness, and some emaciation, preceded the illness of Case 9, a boy of eight. For four weeks the tenth case, a precocious little girl five years old, suffered from symptoms not unlike malaria — languor, emaciation, fretfulness, irregular intermitting fever, restlessness at night, poor appetite, without vomiting or constipation. The eleventh case had phthisis, but observed that his customary hectic had quitted him two weeks before the development of headache and vertigo, which symptoms antedated the active brain symptoms by four days. The twelfth case did not thrive as a nursing baby should, and vomited frequently. A convulsion was the first warning of cerebral trouble. A little girl, lost appetite, was peevish, slept poorly, was feverish, and became emaciated for threeweeks before the cerebral symptoms developed. She had lymphatic enlargement in the neck and abdomen. Emaciation, debility, fretfulness, night-restlessness, irregular febrile movement, disorders of the gastro-intestinal tract, and headache, therefore, were the chief premonitory symptoms. Emaciation, it is seen, was the most frequent and most marked.

An analysis of the phenomena of the first and second stages would be tedious and without practical value. Reference in the succeeding notes will be made to some salient groups of symptoms, present more or less in both stages, and to peculiar manifestations of common symptoms. *Headache*, *motor*, and *sensory irritations*, and *palsies*, occurred in all the cases. In a few, the *headache* was distinctly intermitting. The *spasms* and *palsies* of groups of muscles were irregular in respective cases, as to order or frequency. Hourly change in the state of the muscles was common, and the same may be said regarding sensation. Not only does this apply to alterations of function of spinal, but also of cerebral nerves. Convulsions (partial, unilateral, or general), delirium, and coma were present at the present period, but presented no peculiar feature.

Special Senses.—Total blindness was observed in one case; impairment of vision in five; optic neuritis was recorded in three. The state of the pupils was not of special import—in one instance was there irregularity in size in the second stage. In the first stage they were not affected, save contracted in one instance, and fixed, in a dilated state, in another. Dilatation was the rule in the second stage. Nystagmus was observed in one case. Purulent conjuctivitis occurred in eight cases, in the second stage usually, and in two instances was unilateral. Ptosis was present in only one case.

In five instances local erythema and general flushings were noted. An urticaria-like rash was seen in three instances. In the later stages pallor or a bluish hue of the face was observed. A unilateral mottling of the extremities was observed. Emaciation was marked and persistent in the prolonged cases, nine in all. Fever was present in the first stage in seven cases; in the second, in nine; intermitting in type, often with irregular paroxysms. Hyperpyrexia was noted in one. The *pulse* was slow seven times in the first stage; irregular or intermitting in four. In the second stage it was usually quickened, small, rapid, and feeble; twice, slow and irregular. It was never wiry or corded in either stage.

Vomiting occurred but three times in the first stage; once only in the premonitory stage; and once only in the final stage. Constipation was seldom observed—three times in the first, twice in the second stage. Diarrhœa was excessive once. Offensiveness of the *breath* was very frequent, and occurred chiefly in the last stage, but was so marked at first, also, in three cases, as to be noted. In the larger (nine) number of instances the tongue was heavily coated. The scaphoid abdomen occurred at varying periods; once in the first stage, seven times in the second stage, while three times it is recorded absent; twice there is no record.

Respiratory symptoms.—First stage, irregular or Cheyne-Stokes, four times, rapid twice, slow once. Second stage, Cheyne-Stokes twice, rapid six times.

Remissions of a decided character were noted twice; after the development of the most grave symptoms, a period of improvement led to hopes of recovery.

Duration.—Of premonitory symptoms, unknown twice; prolonged, once; one year, once (tumor); in two cases, about four weeks; in two, ten days; in one each, three days and twenty-four hours; in two they were absent; and in two the first stage developed at once.

First Stage.—Twelve hours, 2; four days, 2; five days, 2; ten days, 2; eleven days, 1; thirteen days, 1; unknown 3.

Second Stage.—Twenty-four hours, 1; seven days, 1; five days, 3; forty-eight hours, 1; six days, 1; eight days, 1; four days, 2; nine days, 1; unknown, 2.

Entire Duration.—Thirty-six hours, 1; four days, 1; seven days, 1; twelve days, 2; fifteen days, 2; eight days, 1; fourteen days, 1; eleven days, 1; unknown, 3.

The difficulty of estimating the duration is evident to any one. It can only be said that a short first stage, in all the instances, determined a short second stage.

A post-mortem examination was held on four of the cases. In two the disease was largely localized, once in the cerebellar region, in another over the right frontal convolutions, the presence of the tubercle causing during life the symptoms due to localized cerebral irritation at these points. The autopsy also revealed in the case of aphasia, etc., a well-known rule, that the amount of gross lesion is not to be inferred from the extent of symptoms.

Summary.—Tubercular meningitis may be considered a disease, (1) of frequent occurrence in the middle and lower classes especially; (2) more common than other localizations of tuberculosis, except the pulmonary, and much more frequent than other varieties of meningitis. Among the *causes* most prominent are age, hereditary predisposition to tuberculosis, poor hygienic surroundings, and insufficient and poor food.

The prime factor always to be looked for is the presence of a primary focus, inflammatory, tuberculous, or "cheesy." The important symptoms presented in this series of cases were, in addition to the usually noted ones, in the premonitory stages; emaciation, irregular fever, and gastro-intestinal disorder without vomiting; in the succeeding stages, purulent conjunctivitis, erythemas, and other vascular changes in the skin, excessive emaciation, fever, offensiveness of breath, the caphoid abdomen, and changes in respiraory rhythm.

Editorial Department.

Periscope.

Hernia Cerebri Successfully Treated by Closing the Opening in the Skull with a Silver Plate.

Before the Clinical Society of London, Dr. Roderick Maclaren read an account of this case:

A man, A. N., aged 26, was admitted to the Cumberland Infirmary, on March 25, 1885, with a compound fracture of the skull inflicted three days before. For six days after his admission, his condition grew progressively worse. He became deeply comatose, passed motions involuntarily, and had frequent convulsive attacks. The scalp-wound was then enlarged, and all fragments of bone removed; they were ten in number, some being deep in the brain substance. The aperture left in the skull was three inches long, and varied in breadth from one inch above to half an inch below; it was three-quarters of an inch in front of and parallel to the left temporal ridge, and its lower end was at the supra-orbital ridge. Some brain which had protruded was removed, and some diffluent blood gently syringed away. While he was being put under chloroform, it was noticed that the right side was paralyzed. An attempt was made to make the wound aseptic; this failed. From this time his condition improved; he gradually became less comatose, convulsions ceased, and in about a fortnight he understood what was said to him, though he did not speak. By this time, hernia cerebri had again occurred, and Dr. Maclaren removed it, placing a silver plate (a rolled-out florin) inside the skull, so as to block the opening, This was done on April 14; by May 3, the hernia cerebri again existed, owing to the plate slipping to one side within the skull. The protrusion was cut off, and this time the plate was so secured with suture-wire that it could not be thrust to one side. The scalp was liberated by two incisions parallel to the wound, and sutured over the plate. The plate was left in for two months; no protrusion occurred when it was removed, and the wound soon healed. He was discharged from the hospital on September 5. His condition was slight dragging of the right leg, absolute paralysis of the right arm, and slight want of expression on the right side of the face. His speech was well restored, though he was sometimes at a loss for a word, and much given to repeat the same expressions. During the latter part of his stay in the hospital, he had two fits, and he had had

several since, mostly at night, and always with an aura. The paper pointed out the very small amount of local irritation caused by the plate, and that it did not exercise any pressure on the brain, but merely replaced the normal case; and that the result was a substantial reason for trying it again in a similar condition.

The President thought congratulations were due to Dr. Maclaren on the result of his treatment. Cases of the kind were difficult to treat. The plan adopted was novel; but he (the President) was not disposed to think that it was very superior to that of external pressure by thick sheet-lead. The hernia should be kept down by pressure. He had a great objection to the slicing away of brain-tissue, although the symptoms following such an operation were not generally very prominent. He would ask Dr. Maclaren why he had sliced away the protruding brain; why he had not instead thereof applied something like powdered oxide of zinc, which withered up the parts.

Mr. Golding-Bird had had two cases; one five or six years ago, in which, after trephining, the patient had done well, although he had had hernia cerebri as large as a walnut. Tannic acid being applied, the protrusion withered, and he was now quite well. On the other hand, another patient, a boy, had hernia cerebri after an accident, with no objective symptoms of paralysis, nor change of any kind in his sight or mental condition. Tannic acid being applied to the hernia, he had cerebritis, and died; and it was afterwards found that he had sloughing of the protruding brain, which sloughing extended to the lateral ventricle. In a third case, an abscess was evacuated, an antiseptic lotion applied to the hernia cerebri under external pressure, and the patient in the main recovered, though he had some slight paralytic symptoms. If in Dr. Maclaren's case pressure, external to the skull, had been applied to the tumor, Mr. Golding-Bird believed the patient would have done as well. He would ask, if eventually the patient quite recovered his mental functions.

Mr. Pearce Gould had treated one case of small protrusion by external pressure with lint, without making any impression on it. Although part of a motor tract was protruding, there were no paralytic symptoms. One day, the patient had a fit. Mr. Gould then shaved off the hernia, and opened an abscess in the brain beneath. The boy recovered, although he had at first slight paralysis of the fact on the opposite side. It must not be forgotten that hernia cerebri was of various kinds. In his own case, whilst suppuration was going on in the brain beneath, pressure on the hernia failed to do good. One should not look so much to the external application as to the condition of the brain below, on which he thought the result of the treatment rather depended.

Dr. Maclaren, in his reply, said that in his case external pressure of various kinds had been tried, and yet the brain, in spite of it all, protruded. The brain, in protruding, was opened out by the inflammation of its substance; so that, when it was sliced off, not so much of real brain-tissue was removed as one would at first suppose. A parallel case was that of fungating testicle. The man's intellectual faculties had never been of a brilliant character, and his language was Gaelic, so that it was difficult to judge if his mental functions were impaired.

A Case of Stramonium Poisoning with Peculiar Symptoms.

Dr. C. C. Gratiot thus writes in the *Association Journal:*

Between the hours of 7 and 8 p. m., on February 22, I was called in haste to see the child of Street Commissioner Thomas Lee, of Shullsburg, the messenger stating that the child was having convulsions. I arrived at the house within a few moments and found the patient, a boy three years of age, sitting in his mother's lap, his arms and hands outstretched as though to grasp some object. He would open and shut his fingers with deliberation, as though the object he was trying to grasp required some caution and skill to take hold of. After two or three minutes of such manœuvering he would make a sudden jump as though about to seize the object, and would then cry distressfully.

While his hands were thus employed his eyes were fixed, looking straight ahead as though watching something. The pupils were widely dilated, cheeks flushed, mouth dry, pulse fast and full, heart's action good but fast, and respirations increased.

There was also another hallucination. He would act as though something was approaching him from the opposite side of the room, and would point towards it; his eyes and facial expression would convey the idea that the object was after him, and coming nearer and nearer, until he became so agitated that he seemed on the point of having a convulsion.

These hallucinations would alternate, and the only thing that diverted his attention for an instant would be to offer him a cup of

water, which he took with a seeming relish. Turning down the light until the room was almost dark made no difference in his actions.

I was told by the parents that he had always been healthy; that he had been playing out of doors all day, ate a hearty supper, and that nothing wrong was noticed until a few moments before they sent for me, when he commenced to act in the manner described. I inquired if there was any medicine in the place that he could have taken, but could find nothing that threw any light on the case. While watching him and making these inquiries, I noticed that the symptoms were getting worse.

It occurred to me that the symptoms were those of belladonna poisoning. I administered an emetic of ipecac, gr. x., and a large quantity of water. He vomited in a short time, but there was nothing unusual in the ejected matters. I then gave small doses of morphia and bromide of potassium, and rectal injections to move the bowels, but without effect. After an hour he became more quiet, and fell asleep. After an hour's sleep he seemed somewhat better. The pupils were still widely dilated, but the hallucinations were not so vivid.

On telling a professional friend of the curious actions of the patient, he remarked that the symptoms were similar to those which he once saw in the cases of two children who had eaten stramonium; and it immediately occurred to me that such was the case with my patient. He vomited several times during the night, and would wake up and go through his performances; but not so badly as during the evening.

On the morning of February 23 he was much better. The crazy actions had disappeared, but the pupils were still considerably dilated, cheeks flushed, and he was very thirsty. He ate a good breakfast, and before night was apparently as well as ever. In the matters vomited during the night were a number of of stramonium seed. I found, on inquiry, that his father had kept a patch of stramonium plants in the corner of his yard, which he used in making ointment for horses. The boy had cut one of the dry stalks, which was hanging with pods full of seed, and had eaten a quantity of the seed. After finding the cause of the child's sickness, the mother remembered his bringing the stalk on the porch, and saying that he had cut a tree.

The case is of still further interest as showing that stramonium poisoning is quite possible in winter, if there be any of the dead plants about with pods full of seed.

Pelvic Tumor Complicating Pregnancy.

Dr. John W. Taylor thus writes in the *Brit. Med. Jour.:*

The signs and symptoms attendant on the case of pelvic tumor described by Dr. Horrocks in the *Journal* of March 6th, are so very similar to those which we have often found in Birmingham to be associated with distension of the Fallopian tube, that I may, perhaps, be pardoned for suggesting the possibility of the presence of this condition in the case which he has published.

If acutely distended, the tube may be of almost solid hardness; although, when examination is repeated, there will probably be found a time or times when there is some elasticity or semi-fluctuation, indicating the probable presence of fluid. The tumor is generally intimately adherent to the back of the uterus, and can be traced from its posterior surface towards one or both sides, according as one or both tubes may be involved. It is decidedly tender to touch, and feels, on hasty examination, very like a retroflexed uterus. It is more likely to be mistaken either for this or for a myomatous outgrowth (subperitoneal fibroid) than for any other condition. Because it is adherent to the uterus, it moves rather rigidly with that viscus, and does not disappear on the use of the uterine sound, as a simple non-adherent flexion of the uterus may do. It is generally accompanied by pain, increased before and during menstruation; although, for some reason or other, it is not always the side affected that is the chief seat of pain. Sexual intercourse is usually painful; but all symptoms may be in abeyance when the condition is one of hydrosalpinx, and is chronic and stationary.

When confined to one side, it forms no bar to the occurrence of pregnancy. I have had until recently a case under my care, in which the signs of a distended tube have existed for nearly two years. The symptoms have been but slight, and consequently no operation has been performed. The patient is now about six months pregnant; and the tube, although somewhat larger in size than before the pregnancy, has not at present occasioned any serious inconvenience or difficulty. It is a question, however, which only increased experience can determine, whether this condition, when existing during pregnancy and labor, does not expose the patient to rather serious risk.

Hemorrhage is not a very common symptom of tubal occlusion and distension, but, when present, is apt to be severe, and, when accompanied by signs so nearly resembling nodular myoma of the uterus, may be speci-

ally misleading. I operated on a case presenting these features on December 10th of last year. Excessive menstruation had existed for four years, and latterly the patient had been "scarcely ever free" from hemorrhage. If absent for a few days, it was brought on again by the slightest exertion, and invariably by sexual intercourse. On two occasions, it had been so severe that the surgeon attending her had considered it necessary to plug the vagina. On examination, a resilient rather egg-shaped tumor was found high up behind and to the right of the uterus, feeling as if part of the uterus itself.

On operation, both tubes were found to be acutely distended and adherent behind the fundus of the uterus. The ovaries were cystic. The appendages on each side were carefully separated from their adhesions and removed, and are now in the museum of the Queen's College.

Since the operation, the hemorrhage has been much less, but menstruation has not as yet entirely ceased.

While fully recognizing that conclusions drawn from the description of a case are not, *prima facie*, likely to be so reliable as those from personal observation, my chief purpose will be attained if I succeed in drawing attention to the fact that chronic hydrosalpinx, both by signs and by symptoms, may occasionally closely simulate nodular myoma of the uterus, and need differential diagnosis from that affection.

The Cocci of Croupous and Hypostatic Pneumonia.

Dr. Lebashoff publishes in the *Russian Weekly Clinical Gazette* an account of some observations made with a view to determine the frequency with which microbes are present in cases of croupous and hypostatic pneumonia. He examined sections, the liquid contained in the lungs, the contents of the smaller bronchi, and also the fluid of the cerebral ventricles, and in some cases the blood from the heart and large venous trunks. The ordinary methods of staining not being very satisfactory, the author undertook a series of observations for the purpose of improving upon them, and found that the best method of staining lung sections was to immerse them for from two to five minutes in an aniline solution of gentian violet, and afterwards for from four to fifteen minutes in an aniline or watery solution of eosin, then to wash them and dry them with alcohol, and finally to treat them with clove or cedar oil. By this method of staining the micro-organisms could be seen to be distributed in a very irregular way, usually in groups. The cocci found in the centre of a lobulus always preserved their ordinary form, and were strongly stained; while single cocci towards the circumference were often hardly to be distinguished, being but slightly stained. While some of the cocci presented a distinct envelope, others apparently of the same variety were seen close to them without any envelope at all. The size of the pneumococci was not constant, this being perhaps due to the manipulations the section had undergone in preparing them for examination. The cocci seen by the author entirely corresponded with those described by Friedlander. Altogether there were examined forty-eight cases, forty-one of croupous and seven of hypostatic pneumonia. In the latter class of cases it did not seem that any characteristic cocci were constantly present, while in the forty-one cases of croupous pneumonia Friedlander's cocci were found in the lung tissue in thirty-eight cases. In eleven of these the fluid of the cerebral ventricles was also examined, cocci being found in eight. In the earlier stages of the disease the number of cocci was small; this gradually increased, attaining its maximum when red hepatization was changing into grey. The blood was examined in twelve cases, but no pneumococci could be discovered. The observations were carried on by cultivations in jelly and inoculations of animals. For cultivations in jelly the liquid from the lungs, the blood, and the fluid of the cerebral ventricles were used. Two kinds of colonies were met with. One kind was obtained after inoculation not only of pneumonia, but of other diseases, and of putrescent blood. The second kind differed from these in being of a dull white without any admixture of gray, and in being distinctly raised above the surface of the jelly. This kind was only observed after inoculation from croupous pneumonia. From ten inoculations with pneumonic lung juice these colonies were obtained eight times; five inoculations with ventricular fluid were twice successful, and three inoculations with blood only once. Experiments with mice showed that when these animals were inoculated from colonies of the second kind they developed croupous pneumonia, and in one case out of three in which the greyish cocci were inoculated, croupous pneumonia also followed. The author remarks that further observations are necessary on this subject, since mice are very subject to croupous pneumonia, and it is possible that numbers of other micro-organisms may have the power of setting up the disease in them.

IS BOAT RACING INJURIOUS?

On the whole, we would answer this question affirmatively. There can be no doubt that the excessive strain placed upon the heart as well as upon all other parts of the body, by the violent exertions always made to be victorious, must, in the majority of cases, result disastrously. The *London Lancet* evidently takes a different view, as is evidenced by the following quotation:

"The annual contest between Oxford and Cambridge for aquatic supremacy proved this year to be one of unusual severity, and two, if not three men in both crews, towards the end of the race, showed evident symptoms of distress. This fact has led to some sensational statements being made to the effect that some of the men will never get over the consequences of their exertions. We believe, however, that such statements have no real foundation, and, beyond the fact that the men were temporarily distressed, nothing like permanent mischief is likely to result. Some years ago, before the conditions of training were thoroughly understood, such rumors were frequent after each great boat race, and even very eminent medical authorities set their faces steadfastly against boat-racing as an exercise. But a close inquiry into the after-history of the crews of the Oxford and Cambridge boats has proved conclusively that the mortality among the heroes of the annual race is certainly not greater than among the average of university men generally. The names of Sir Balliol Brett, Bishops Wordsworth, Selwyn, and Macdougall, Dean Merivale, Hon. G. Denman, J. M. Croker, and F. M. Arnold, are well known as those of members of victorious crews more than forty years ago, who have survived up to quite a recent date—indeed, some are still living; and to these may be added names, less known to fame, who were still able to answer *Adsum* when the roll was called a few years since. Sir George Burrows, who is still living, has told us he took part in one of the earliest of the college races on the Cam, quite fifty years ago; whilst Lord Penrhyn, who has just died at the advanced age of eighty-six, was a member of a crew who, in 1824, performed the extraordinary feat of rowing, with five others, from Oxford to Westminster Bridge within sixteen hours, a distance of 118 miles, with many locks to pass through, in one of the heavy wherries and with oars of the period—a performance far more severe than rowing a four-mile race: for, with a heavy six-oared wherry, they had to keep up the pace continuously, except at the locks, for

sixteen hours, at eight miles an hour; whilst, with light outriggers, sliding seats, and improved oars, the pace of the racing eight is little over twelve miles an hour for twenty minutes. A reason in favor of boat-racing as an exercise is the fact that the progress from ordinary to severe exertion is made very gradually. The tyro who first commences to row has to learn first to manage his oar; as soon as his muscles get accustomed to the weight, he is taught to bring his whole muscular system into action to propel the boat; but this has to be done gradually, otherwise he will acquire awkward habits. As soon as he has learned to row, he begins to cultivate pace, but this has to be practiced cautiously, since if allowed to "blow" himself, he will soon row out of form; and it is only by degrees that the bursts are lengthened as the "wind" improves. Next, after considerable preparation, come the "trial" races, in which the men's physical and staying powers are closely watched; and then comes the final selection into the crack crew. The result is, that an unsound man is usually found out long before the severe trial comes; whilst, for sound constitutions, a course of systematic and careful training tends to improve the physical and vital powers, and fits men to undergo the strenuous exertions of a boat-race without injury."

Whenever we desire to prove any given point we can almost always find *exceptional* cases that *seem* to furnish this proof. But argument for a general principle based upon exceptional instances is fallacious argument, and we fear that the *Lancet* in its endeavor to uphold a sport that is very popular in England has erred on the side of leniency. Rowing (easy, lazy paddling) is no doubt very good exercise, but we fear that *racing* cannot be commended from a sanitarian's point of view.

CHOLERA AGAIN.

An English exchange says: "The reported recurrence of cholera in Brittany enforces the caution contained in our recent issue as to the danger this country may have to face during the rainy season, on account of cholera on neighboring coasts. For the moment no news is forthcoming as to the prevalence of the disease on the north coast of Spain, but there can be little doubt that cholera is prevalent in certain portions of Brittany, and especially in and about Treboul. Probably the disease is of a more or less sporadic character, and hence the denials as to the existence of Asiatic cholera; but whatever form the disease assumes, it is clear that it is an affection having very near affinities to the epidemic which prevailed in France in 1884 and 1885; and in view of the communications between the coast of Brittany and our own coasts by means of fishing-boats, etc., it is important that our port and riparian sanitary authorities should be on the alert."

We reproduce this paragraph, because we believe that a little "cholera scare" usually has a wholesome influence. While we fully appreciate the evil influence of *fear* when the disease is epidemic in a locality, yet, at the same time, we also know that an "*ante-epidemic*" scare is never to be regretted. We are quite sure that the citizens of Chicago do not regret the one hundred thousand dollars spent last year in putting their city in proper sanitary condition, money appropriated under the spur of a "cholera-scare," and we are also sure that the house-to-house visitation and the general "cleaning-up," has done no harm to our city. To be forewarned is to be forearmed. Because we did not have cholera last summer is not a valid argument that we will not have it next. The powder is laid; it requires but the spark of of sanitary neglect to set it ablaze, and the unguarded entry of but one vessel to devastate our country. "A word to the wise is sufficient."

PROFESSOR FORBES OF "THE JEFFERSON."

Could the late Emeritus-Professor, Joseph Pancoast, unite with the present Emeritus-Professor, William H. Pancoast, we doubt not that they would jointly congratulate the Jefferson Medical College in having so worthily filled the chair that has been graced by distinguished father and distinguished son for so many, many years. The Trustees of the Jefferson Medical College had a very delicate duty to perform, for among the candidates for the chair of anatomy were so many distinguished anatomists, all thoroughly capable of filling the chair, and some pre-eminently so, that it became a matter of no small difficulty to make the most fit selection.

The Trustees have decided. Dr. William S. Forbes sits in the "Chair of the Pancoasts," and we heartily and sincerely congratulate both College and Professor on this fact.

STATE SANITARY CONVENTION.

We desire to call special attention to the circular from the State Board of Health, in reference to the Sanitary Convention, which

we publish on another page. This is a splendid programme, the nature of the work of the convention is of vital importance, and we sincerely trust that the place of meeting will be filled to overflowing throughout the sessions of the Convention.

Notes and Comments.

Three Peculiar Cases of Pneumothorax.

Dr. Samuel West read a paper on this subject before the Clinical Society of London, of which the following is an abstract:

Case 1. Three months ago, the patient had sudden dyspnœa while in bed. There was no cough before, but cough and expectoration came afterwards. He was at work the day before the attack. Ten days before admission the dyspnœa gradually grew worse, with pain in the side. Pneumothorax of the right side, with effusion, was found. Tapped; 41 ounces sero-purulent fluid withdrawn. Pressure was high. Tapped again fourteen days later; 22 ounces removed. Complete recovery. The patient was living and well, and in active work, three years afterwards.

Case 2. Phthisis of nine months' duration. Pneumothorax of the right side occurred in hospital. Death, two days later, was chiefly due to choking, by contents of a large cavity forced by compression of the lung into the bronchi.

Case 3. Sudden attack three weeks before admission. Cough only for two months; that is, five weeks before the attack. Admitted for dyspnœa and hæmoptysis. Pneumothorax of the right side, with effusion, was found. Paracentesis, and 28 ounces of sero-purulent fluid withdrawn. Paracentesis, 36 ounces of pus, three weeks later. Spontaneous discharge of pus, by the puncture, occurred a few days later. Free incision. Two days after, hemorrhage from the pleura by the incision, and hæmoptysis for a few days. Death from exhaustion about twelve days later, without further hæmoptysis.

Remarks.—Case 1. (*a*) The cause probably phthisis. (*b*) Pressure high. (*c*) Composition of the gas. (*d*) The nature of the effusion. (*e*) The dilatation of veins. (*f*) Prognosis in pneumothorax.

Case 2. The chief cause of the dyspnœa in the case, namely, the discharge of the contents of cavities into the bronchi, was not often described.

Case 3. Aneurism of the pulmonary artery and pneumothorax were rarely associated. They were, as it were, opposed processes. The proposed treatment of profuse hæmoptysis by the artificial production of pneumothorax was criticised.

Decoction of Lemons in Intermittent Fever.

Having reviewed the literature of the subject (Maglieri, Stephens, Toropoff, Tommasi-Crudeli, Dominico Azzillo, Norman Forbes, Lauchlan Aitken, Putokhin), Dr. Nikolai N. Maslennikoff proceeds (*Kavkazsky Meditz. Sbornik*, vol. 39, Fasc. ii., 1885, p. 29) to describe his own observations on twenty cases of intermittent fever, treated by decoction of lemons in the Military Hospital in Temïr-Khan Shura, Dagestan region. Seven of the patients were affected by the fever for the first time, three for a second; those remaining had passed previously through several malarial attacks. In thirteen of twenty cases a quotidian, and in seven a tertian, variety was present. In sixteen cases the spleen was found to be enlarged and painful (in fourteen, both during the paroxysms and the intervals). The decoction was prepared after Maglieri's method, that is, every evening a whole fresh lemon was cut into very thin slices, put into eighteen ounces of distilled water in an earthen pot, and boiled (for two hours) until six ounces of decoction remained. On the next morning the liquid was forcibly strained through a piece of gauze, and then given to the patient to take immediately at several gulps. The decoction was used in that way for ten or fourteen successive days. In none of the patients did any gastric disturbances occur. The results obtained by Dr. Maslennikoff were not so successful as those by Dr. Putokhin. In only six cases, four of which were of quotidian fever and two of tertian, a cessation of paroxysms ensued. In two of the remaining patients, the paroxysms became less severe; and in three the type of fever underwent a change. In none did any alterations in size of the spleen take place. All cases where decoction of lemons had failed were subsequently, mostly very rapidly, cured by quinine. The general conclusion reached by the author is that, as far as severe Caucasian fevers are concerned, decoction of lemons has, except its agreeable taste and harmlessness, no advantages whatever over other substitutes for quinine.

Intolerance of Quinine and Morphine.

The free, popular use of quinine is always to be deprecated by physicians. It is a powerful drug, potent for evil, and must be only *intelligently* used. To point this caution we

note the two cases that Dr. F. A. Floyer reports in the *Brit. Med. Jour.:*

"Case 1. I was called to see a patient at an hotel, and found a gentleman, about 40 years of age, well built, recovering from a very severe attack of dyspnœa, which, apparently, had threatened to become fatal. The attack was sudden, and was accompanied by well marked urticaria, which appeared, in patches about the size of half a crown, all over his body. I ascertained that the cause of this disturbance was a dose of 'neuralgic drops,' which, on inquiry, was found to contain about 2½ grains of quinine. He had never been able to take quinine, and had before been attacked somewhat similarly on attempting to do so. Surely this has some bearing on the question of urticaria causing asthma.

"Case 2. Into the arm of a well-developed girl, aged 22, I subcutaneously injected one-twelfth of a grain of morphine. To my horror, she immediately turned deadly pale, threw back her head, and in a few seconds respiration ceased, and she was pulseless. Smelling salts was applied, although for the minute there was no perceptible respiration. She was to all appearance dead, but shortly began to recover. As soon as she could swallow, brandy was administered. Presently her eyes turned up, all color left her face, and she became violently convulsed. She recovered again, and, beyond feeling severe pain at the place of puncture, and the pain for the relief of which I gave the injection, she was quite herself. Shortly she began to experience the usual effects of the morphine, of which I only gave a small dose, as it was her first experience of the drug. I considered the symptoms to be the result of shock, due to the perforation of an oversensitive skin; especially as I found, on inquiry, that she had previously fainted on being vaccinated."

Catgut Suture of Patella.

At a recent meeting of the New York Surgical Society, Dr. A. D. Stimson exhibited a patella which, having had occasion to divide, he had subsequently united by catgut suture, but whether one or more he was unable to say. Union ensued without suppuration. About four months later, however, it was found necessary to excise the same knee-joint, and this afforded an opportunity of examining the patella, which also was removed. The line at which the bone was originally divided was practically invisible, and the specimen clearly demonstrated the capacity of catgut to retain the fragments of a divided patella in such apposition that firm bony union may result. In this case, however, the circumstances were immediately favorable to union; the fracture was clean and new, and was quickly united, whereas in ordinary examples of the injury encountered by surgeons neither of these conditions is likely to exist. In Dr. Stimson's case it is not unlikely that any method adopted for keeping the fragments closely applied might have been followed with precisely similar successful union, the wound being really united by first intention, and organization proceeding to the extent of osteogenesis. The author of the account expresses much regret at the omission he was guilty of in neglecting to make special note of the number of catgut sutures employed—whether one or more. But it really would seem that this is of little importance, for the same general result as he obtained would be gained whenever a fractured patella is forthwith placed under the conditions mentioned, whether by suture or otherwise.

Goitre.

This subject is discussed, as the writer saw it in the Himalayas, in the March number of the Dublin *Journal of Medical Science.* Beginning with a glance at its geographical distribution, which includes not alone large portions of these mountains, but also Tibit and Bhootan, and such remote regions as Yarkand and Kashgar—in other words, all the table-lands of Central Asia—Dr. Curran describes the treatment that is resorted to for it on the spot, and shows that this consists mainly, if not exclusively, in a very free use of the moxa. Illustrations in point are given, and our author asserts that the people are firm believers in its efficacy. He then discusses the etiology of the complaint, and setting aside as improbable or unproven the ice-water hypothesis as well as the weight-on-head carrying theory, as he calls it, he ascribes it to the secluded lives and impoverished surroundings of these poor people. He ascribes it, in a word, to heredity, breeding in-and-in, and especially to the "poor monotonous vegetable dietary" to which their "poverty rather than their will consents." Whatever we may think of this hypothesis, it has the undoubted merit of meeting all the requirements of the case, as these are seen or can be studied on the spot, and the paper will otherwise raise the repute of its author. We strongly commend the perusal of it to our readers, as well as to all who take an interest in the pathology or diffusion of this obscure malady.

The Tests for Cocaine.

In *Pharmaceutische Centralhalle* of March 26, H. Beckurts criticises the tests for cocaine given by the German Pharmacopœia Commission. These tests are—(1) That the alkaloid and its salts should leave no residue on ignition, and (2) should not give any color with sulphuric acid. While the latter test is sufficient to detect substances other than cocaine extracted from the leaves, it does not afford any color with decomposition products of cocaine which may be formed through the influence of acids and alkalies. Owing to various conflicting statements which have recently been made, the author was led to study the influence of the proportions of alkaloid and acid upon the non-production or production of color, and he finds that one of cocaine hydrochlorate gives a colorless solution with fifty of sulphuric acid, but with three to four times that quantity of acid a yellow to red solution is formed. He therefore concludes that if the test is to be of any value, the proportions must be stated; but he is inclined to abolish the test altogether, because some samples which he knew to be grossly impure responded favorably to it. For it Giesel's permanganate test might, with certain modifications, be substituted. This test depends upon the fact that a weak aqueous solution of potassium permanganate gives a copious violet-red precipitate with a soluble salt of cocaine. Beckurts finds that on the addition of the first five drops of permanganate solution the permanganate salts suffer reduction with separation of manganese oxide, and it is only when large excess of the solution is added that the violet precipitate separates. If there be any decomposition products present, these are detected by the bitter-almond odor on boiling.

Myxœdema with Flexures.

Before the Medical Society of London, Dr. Ord showed a woman who exhibited the typical features of myxœdema, and, in addition, flexure of the hands, etc., was present. These flexures were not very obstinate, and were probably functional in character. No affection of the sensory functions.

Dr. Stephen Mackenzie asked whether the flexures relaxed during sleep.

Dr. Beevor called attention to a certain tremulousness in the patient, and mentioned that Dr. Horsely had found similar tremors in animals whose thyroid gland he had removed.

Dr. Heron alluded to the lapse of time which occurred between a question and the answer, and said that patients had assured him that they understood the questions quickly enough, but were conscious of an inability to reply promptly.

Dr. Drewitt asked Dr. Ord whether there was any heredity in this case.

Dr. Ord, in reply, said that the spasm relaxed during sleep. The tremors noticed by Dr. Beevor were probably due merely to excitement. He had known at least three cases which appeared to be hereditary.

Spinal Sclerosis and Osteo-Arthritis.

Before the Medical Society of London, Dr. Ord also exhibited a case, apparently of disseminated spinal sclerosis. All the joints of both hands were deformed, being of the nature of osteo-arthritis. Considerable thickening of the joints, with ankylosis, existed; there was much muscular atrophy of the hands, and also a glossy skin. The tremors and rigidity of limbs had in great degree diminished. The association of several dystrophies with the spinal symptoms was very noteworthy. The osteo-arthritis and atrophy of muscle and skin had been present about three years. Probably the loss of power, tremors, rigidity, and trophic changes were all due to one and the same spinal affection. Dr. Beevor asked whether it might not be a case of paralysis agitans. Dr. Ord could not accept this view.

Complete Rupture of Kidney.

To the Liverpool Medical Institution, Dr. Macfie Campbell showed a complete rupture of the kidney. The patient was a boy aged nine years, who was run over by a fire-escape. On admission to the Northern Hospital he was much collapsed, and complained of pain over the navel and pubes. A small quantity of bloody urine was drawn off. Rupture of bladder was diagnosed, and the viscus was opened supra-pubically and a drainage-tube inserted. No rupture was found, and further exploration was impossible, on account of the lad's condition of collapse. He died in twenty-four hours.

Post-mortem.—The pelvis and abdomen were full of blood, and the left kidney was found completely divided across, the capsule even being ruptured.

On the Transplantation of Teeth.

Experiments have recently been made by Dr. Younger, of San Francisco, on the subject of the transplantation of teeth, with a view to their growth in the new position. It

would appear that, if proper precautions be taken to secure perfect apposition and cleanliness, the operation is often attended with success, and possesses many advantages over the use of false teeth. The inflammation of the gums, however, is somewhat persistent, and constitutes a drawback, from the inconvenience which results therefrom. Recourse to this method is more particularly indicated when the teeth to be replaced are front teeth, and essential both for appearance sake, and for perfect articulation.

Inversion of the Temperature Curve.

Dr. Coriveaud draws attention in the *Journal de Médecine de Bordeaux* to some cases of pneumonia in children in which the ordinary temperature curve was inverted. A similar observation has, it seems, been made by Damaschino, in a thesis published in 1867, as he says: "In broncho-pneumonia the evening exacerbation is not always constant. In some cases the fever is as high in the morning as in the evening; in others the morning readings are even higher than those taken in the evening." Hirtz, too, in his article "Chaleur," in Jaccoud's Dictionary, mentions that in acute phthisis the morning temperature is occasionally higher than the evening.

CORRESPONDENCE.

A Few Thoughts on the Clinical Thermometer.

EDS. MED. AND SURG. REPORTER:

One of the results noticeable from the now general use of the fever thermometer that is extremely unpleasant to the general practitioner, especially when we have an endemic (slight or otherwise) of some of the forms of continued fever, is this: that the friends and even the patient, while they know little or nothing as to the variations of temperature, not even the normal temperature of the human body, after the thermometer has been used once or twice, thereafter demand to know the daily rise and fall, commenting upon each, and often ready to go off in a tangent if there be a perceptible rise, which, perhaps, the physician understands as the natural sequence of the disease, indicating simply the natural progress of the disease, but which cannot be made to correspond to the friend's idea, and a consultation of physicians is at once ordered, or, perhaps, the physician, fully able to take the continued charge of the case and conduct it through to a successful termination, is forthwith discharged and another called.

But this is not all; it occurs to us that the patient himself has learned to ask to see the record of his temperature—yes, demand it; and if refused, the effect is likewise bad and depressing, because he imagines he is refused because he is worse, etc., etc. One is driven to desperation frequently as to how to escape this unpleasant dilemma, and forced to resort to all sorts of expedients to detract the attention from the thermometer, while in some cases he skillfully manages to *shake* the index to a point that would please his patient. But all this is unpleasant, and one does not enjoy the deceit that one must resort to, or allow his patient to realize each day that he is gradually growing worse—if it be so. But what shall we do? I have known two or three families who have had some long-continued cases of fever in their homes, to secure a thermometer and retain it for their own satisfaction, and the profession will understand how much satisfaction they received, watching the sudden rising and falling of the temperature of a loved member of the family. But where is this going to end? In all families having their "thermometer," I fear, just as they have the regulation syringe. I hope not, for their own peace of mind and for the good of the profession—and especially the young doctor. His chances of retaining a case right through, I am afraid, would be slim, as how many times an elevation in temperature, perfectly under the control of the physician, would be the signal announcing his discharge. This reminds me of an incident occuring in my office yesterday, which illustrates how the most unlearned have already learned to depend upon the little glass instrument.

Mrs. —— with her daughter, after an opinion by myself that the daughter's trouble was purely "bronchial." "Sure," says the mother, "doctor, you didn't try the little glass thing that goes in the mouth? Sure, Mrs. Mc—— towld me that you would put a little glass thing in her mouth, and that would tell just where the disease was, entirely." I used the "little glass thing," and thereby suited the interested mother at once; and I dare say, that while my opinion was taken as absolute after using the thermometer, it would not have been taken had I not used it; but a doctor would have been found who used the "glass thing." Again, where will it end? Shall we practice regular deceit, or shall we bulletin at each visit the exact condition to friends and patient?

C. G. HOLLISTER, M. D.

Union City, Pa.

Rhus Poisoning.

EDS. MED. AND SURG. REPORTER:—

In regard to the communication of C. E. D., of Bedford, N. Y., page 413, I may say that swamp sumach is *rhus venenata*, a shrub six to twelve or more feet high, compound leaves, seven to thirteen leaflets, nearly always found growing in wet or swampy places, quite poisonous, as I have occasion to remember. Rhus toxicodendron grows upon dry land, erect, decumbent, oftener climbing by rootlets upon rocks, trees, etc., leaflets in threes, poisonous to some people, but to a less degree than the former. In California we have rhus diversiloba, quite abundant on dry ground and along creeks, seldom seen climbing, although it will climb by rootlets; leaflets in threes, and seems almost if not quite as poisonous as rhus venenata. All through spring and summer (occasionally in winter), I see numerous cases of poisoning from this rhus (commonly known as poison oak), more or less severe according to the extent of surface affected. The best remedy I have found is the following:

℞.	Borax, pulv.,	ʒij.
	Acid, carbolic,	ʒj.
	Morphia, sulph.,	grs. x.
	Pulv. acacia,	ʒiv.
	Water, q. s. ad.,	℥viij.

M.—Agitate till solution is formed. Use with camel-hair brush.

The carbolic acid and borax doubtless help to kill the poison, while with a few brushings the skin becomes coated with the gum, and the irritation and pruritus are allayed.

I do not believe that the poison "lives in the system," although it is the belief of many of the common people, for which they take sarsaparilla and iodide of potash.

San Mateo, Cal., Apr. 9, 1886. L. D. M.

Tying the Cord.

EDS. MED. AND SURG. REPORTER:

Several months since an article was published in the REPORTER on "Tying the Cord;" since then, scarcely a number has been published that has not had an article on the subject. I do not wish to give an opinion on when, where, how, or why, to tie the cord, but simply to give a hint which I have learned from experience.

A few weeks ago I was called to confine a lady, and, as frequently happens, I arrived there some time after the child was born. The nurse had it washed and dressed, and, so far as the child was concerned, all was apparently well. I delivered the placenta and gave the woman the necessary attention; and a few moments thereafter was about leaving when my attention was called to the child, whose clothing was saturated with blood. Surmising its origin, I had the clothing removed and found simply a heavy thread wound around the cord several times, as we frequently find fingers done up.

Moral.—In such cases, always examine carefully the nurse's work.

N. C. MILLER, M. D.

Stroudsburg, Pa.

NEWS AND MISCELLANY.

State Sanitary Convention

UNDER THE AUSPICES OF THE STATE BOARD OF HEALTH,

In M'Caull's Opera House, Broad street below Locust, Philadelphia, Wednesday, Thursday, and Friday, May 12, 13, and 14, 1886.

The following circular, which we print as received, explains itself:

Commonwealth of Pennsylvania.

The object of this convention will be to afford an opportunity for an expression of opinion on matters relating to the public health and the discussion of methods looking towards an advancement in the sanitary condition of the commonwealth, the prevention of sickness and avoidable death, and the improvement of the conditions of living.

ORGANIZATION OF THE CONVENTION.

President.—Wm. Pepper, M. D., LL. D., Provost of the University of Pennsylvania.

Vice-Presidents—Hon. William B. Smith, Mayor of Philadelphia; Hon. James Pollock, Hon. J. F. Hartranft, Hon. Henry M. Hoyt, ex-Governors of Pennsylvania; Hon. Richard Vaux, Hon. Samuel G. King, ex-Mayors of Philadelphia; Hon. A. F. Mizener, Mayor of Erie, Pa.; Hon. Lewis C. Cassidy, Attorney-General of Pennsylvania; Hon. Wm. S. Stenger, Secretary of the Commonwealth of Pennsylvania; Hon. J. Simpson Africa, Secretary of Internal Affairs of Pennsylvania; Hon. Jerome B. Niles, Auditor-General of Pennsylvania; Hon. James I. Mitchell, Judge Court Common Pleas; Hon. James Gay Gordon, Judge Court Common Pleas; Hon. James H. Campbell, ex-Postmaster-General United States; Hon. Robert Adams, Jr., State Senator; Hon. A. K. McClure, editor *Times;* Right Rev. Willliam Bacon Stevens, D. D.; Right Rev. Edmund de Schweinitz,

D. D., Bethlehem, Pa. Right Rev. Cortlandt Whitehead, D. D., Pittsburgh, Pa.; General Presley N. Guthrie, Adjutant General of Pennsylvania; General J. P. S. Gobin, Lebanon, Pa.; General George R. Snowden, Philadelphia, Pa.; Colonel Richard S. Edwards, Quartermaster-General of Pennsylvania; Mr. Charles Emory Smith, editor *Press;* Mr. Robert S. Davis, proprietor *Call;* Mr. Louis N. Megarge, editor *News;* Mr. William M. Singerly, proprietor *Record;* Dr. Daniel G. Brinton, editor MEDICAL AND SURGICAL REPORTER; Mr. J. Clarke Davis, *Inquirer;* Mr. James R. Gates, President Select Council, Philadelphia; Mr. Charles Lawrence, President Common Council, Philadelphia; Mr. John Bardsley, Chairman Finance, Common Councils; Colonel William Ludlow; Mr. H. G. Sickel, President Board of Health of Philadelphia; Mr. A. A. Hirst, Secretary Board of Health of Philadelphia; Mr. John Wanamaker; Col. Robert P. Dechert, Controller of Philadelphia; Major Moses Veale, Health Officer of Philadelphia; Dr. Wm. M. Welch, Physician-in-charge Municipal Hospital, Philadelphia; Dr. Henry Leffmann, Port Physician; Dr. F. S. Wilson, Lazaretto Physician; Dr. Roberts Bartholow, Dean Jefferson Medical College; Dr. A. R. Thomas, Dean Hahnemann Medical College; Dr. P. D. Keyser, Dean Medico-Chirurgical College; Dr. Rachel L. Bodley, Dean Women's Medical College of Pennsylvania; Dr. R. J. Levis, President Philadelphia County Medical Society; Dr. William H. Pancoast, Emeritus Professor of Anatomy, Jefferson Medical College; Dr. D. Hayes Agnew, Professor of Surgery, University of Pennsylvania; Dr. William B. Atkinson, Secretary American Medical Association; Dr. P. H. Bailhache, U. S. M. H. S.; A. H. Fetterholf, Ph. D., President Girard College; Mr. Samuel C. Perkins, President Public Building Committee; Mr. Wm. B. Land, Secretary Public Building Committee; Mr. John Gay, President Commissioners of Fisheries; Mr. Samuel L. Smedley, Chief Engineer and Surveyor of Philadelphia; Mr. Wm. Dixey, Commissioner of Markets and City Property, Philadelphia; Mr. Cadwalader Biddle, Secretary Board of Public Charities; Mr. George A. Cotton, President Board of Port Wardens; Mr. Christopher Stuart Patterson, Secretary Eastern Penitentiary; Mr. Frederic Collins, President House of Refuge; Mr. A. M. Spangler; Mr, W. Heyward Drayton, President Directors City Trusts; Mr. Richard L. Ashhurst; Captain W. Stokes Boyd; Mrs. E. D. Gillespie.

Programme.

Owing to the large number of papers to be read, the committee earnestly request the participants to adhere closely to the apportionment of this programme. The audience are invited to take part in the discussions, which must be limited to *five minutes* for each participant.

WEDNESDAY, MAY 12.

Morning Session.

10 a. m. Prayer by the Rev. Matson Meier-Smith, D. D., Professor in the Philadelphia Divinity School. Introductory remarks by the President. Address of welcome by His Excellency, Robert E. Pattison, Governor of Pennsylvania.

11 a. m. "Prevention of Communicable Diseases." By Morton Prince, M. D., of Boston, Mass.

11:30 a. m. "An Epidemic of Diphtheria Traced to Its Source." By Benjamin Lee, A. M., M. D., Secretary State Board of Health of Pennsylvania.

12 m. "Tests for Impurities in Water." By H. F. Formad, M. D., of Philadelphia, Lecturer on Experimental Pathology, University of Pennsylvania.

12:30 p. m. "Necessity of Physical Education." By Carl H. Horsh, M. D., of Dover, N. H., Member State Board of Health of New Hampshire.

Afternoon Session.

2 p. m. "Importation of Foreign Rags into American Ports." By F. S. Wilson, M. D., Lazaretto Physician.

2:30 p. m. "Heating and Ventilation of Public School Buildings," as illustrated by the system introduced into the new High School building at Chester. By D. W. Jefferis, M. D., of Chester, Pa.

3 p. m. "Narcotic Appetites." By J. Lowry Sibbett, M. D., of Carlisle, Pa.

3:30 p. m. "Economic Sanitation." By Albert L. Gihon, M. D., Medical Director, U. S. N.

4 p. m. "Our Drugs and Medicines." By L. Wolff, M. D., President Pharmaceutical Examining Board of Philadelphia.

4:30 p. m. "Physic, Tippling, and Medicine Bibbing," a warning against intemperance in the use of drugs. By Frank Woodbury, M. D., Professor of Materia Medica and Therapeutics in the Medico-Chirurgical College of Philadelphia.

5 p. m. "Healthy Dwellings." By V. C. Vaughan, M. D., of Ann Arbor, Michigan, Member of Michigan State Board of Health, Discussion by Mr. George N. Bell, C. E.,

of Newport, R. I.; Mr. William B. Land, Secretary Public Building Commission, Philadelphia; A. R. Thomas, M. D., Dean Hahnemann Medical College.

Evening Session.

Annual address before the Board.

8 p. m. "The Obligation of States and Citizens to Preserve the Health of the People." By Hon. Erastus Brooks, of West Brighton, N. Y., Member New York State Board of Health.

THURSDAY, MAY 13.

Morning Session.

10 a. m. "Drainage and Sewerage of Cities and Towns." By Colonel George E. Waring, Jr., of Newport, R. I.

Discussion by Hugh Hamilton, M. D., of Harrisburg, Pa.; John G. Richardson, M. D., Professor of Hygiene, University of Pennsylvania.

11 a. m. "The Relations which the Topography of Harrisburg, Pa., Bears to its Drainage and Sewerage." Illustrated by maps and charts. By Hugh Hamilton, M. D., of Harrisburg, Pa.

11:45 a, m. "The Majesty of Law in Sanitation." By Rev. J. Andrew Harris, D. D., of Chestnut Hill, Pa.

12:15 p. m. "The Prevention of the Spread of Scarlet Fever." By W. W. Vinnedge, M. D., of Lafayette, Indiana.

12:30 p. m. "Means of Elevating the Standard of Supplies." By Mr. H. Wharton Amerling, of Philadelphia.

12:45 p. m. "The Adulteration of Candy." By E. A. Heintz, Editor *Confectioner's Journal*, Philadelphia.

Afternoon Session.

2 p. m. "Heredity and Other Peculiarities Affecting Health and Longevity." By C. W. Chancellor, M. D., of Baltimore, Md., Secretary State Board of Health of Maryland.

Discussion by A. J. B. Jenner, A. M., M. D., of Detroit, Michigan; J. G. Richardson, M. D., Professor of Hygiene, University of Pennsylvania.

2:45 p. m. "The Duties of Sanitary Authorities in Reference to the General Use of Alcohol." By Prof. Henry Leffmann, M. D., of Philadelphia.

3 p. m. "Hygiene of Old Age." By Prof. H. C. Wood, M. D., of Philadelphia.

Discussion by Laurence Turnbull, M. D., of Philadelphia.

3:30 p. m. "The Influence of Overwork in the Production of Nervous Diseases and Insanity." By Prof. C. K. Mills, M. D., of Philadelphia.

4 p. m. "Defective Vision in School Children." By Prof. P. D. Keyser, M. D., of Philadelphia.

Discussion by A. J. B. Jenner, A. M., M. D., of Detroit, Michigan.

4:30 p. m. "Municipal Sanitation." By H. B. Horlbeck, M. D., of South Carolina, Health Officer of Charleston.

Discussion by Morton Prince, M. D., of Boston, Mass.

5 p. m. "Vaccination." By Dr. Wm. M. Welch, Physician-in-charge Municipal Hospital, Philadelphia.

Discussion by A. J. B. Jenner, A. M., M. D., of Detroit, Michigan.

Evening Session.

8 p. m. "Water Supplies of Towns and Cities." By Charles Smart, M. D., Major and Surgeon, U. S. A.

FRIDAY, MAY 14.

Morning Session.

10 a. m. "Artificial Feeding of Infants." By John M. Keating, M. D., of Philadelphia.

Discussion by Prof. Albert R. Leeds, M. D., of Stevens' Institute of Technology, Hoboken, N. J.; A. J. B. Jenner, A. M., M. D., of Detroit, Michigan.

10:45 a. m. "The Water Supply of Philadelphia." By J. Cheston Morris, M. D., of Philadelphia.

Discussion by Prof. Albert R. Leeds, M. D.; Charles W. Dulles, M. D., of Philadelphia.

11:45 a. m. "Mistakes in School Architecture." By J. H. McClelland, M. D., of Pittsburgh, Member of State Board of Health of Pennsylvania.

Discussion by Prof. P. D. Keyser, M. D., of Philadelphia.

12:30 p. m. "Disposal of Human Excreta by Fire." By W. S. Ross, M. D., of Madisonville, Ky.

Afternoon Session.

2 p. m. "Influence of Diet on Health." By A. K. Hills, M. D., of New York.

2:15 p. m. "The Financial Aspect of Sanitation." By Alfred Ludlow Carroll, M. D., West New Brighton, New York.

2:30 p. m. "Social Sanitation among the Japanese." By D. R. Simmons, M. D., of Yokohama, Japan.

3 p. m. "The Sanitary Significance of Sporadic Typhoid Fever." By Pemberton Dudley, M. D., of Philadelphia, member State Board of Health of Pennsylvania.

3:30 p. m. "The Causation of Pneumonia." By Henry B. Baker, M. D., of

Lansing, Michigan, Secretary Michigan State Board of Health.

4 p. m. "Care of Animals in the Propagation of Vaccine." By Prof. W. L. Zuill, M. D., Professor of Comparative Anatomy, Veterinary Department, University of Pennsylvania.

The balance of this day's session will b devoted to voluntary remarks.

Among the many distinguished gentlemen who have promised to be present and take part in the discussions, besides those already announced in the programme, we note the following:

Charles Mitchell, M. D., Health Officer of Nashville, Tennessee; John B. Hamilton, M. D., Surgeon General United States Marine Hospital Service; Hon. John F. Hartranft, Col. Wm. Ludlow, Adjutant-General P. N. Guthrie; W. C. Cook, M. D., County Health Officer, Nashville, Tennessee; Edward W. Germer, M. D., Erie, Pennsylvania, President State Board of Health of Pennsylvania; Mr. Samuel L. Smedley, Chief Engineer and Surveyor of Philadelphia; W. J. McClure, Health Officer, York, Pennsylvania; George Homan, M. D., Albert Merrill, M. D., Members Missouri State Board of Health; W. F. Hyer, M. D., Member Mississippi State Board of Health; Dr. David Engelman, Easton, Pennsylvania, Member Pennsylvania State Board of Health; G. H. Wilson, M. D., Member Connecticut State Board of Heaith.

The headquarters of the Convention will be at the St. George Hotel, where special rates have been made for those attending the Convention.

PEMBERTON DUDLEY, M. D.,
BENJAMIN LEE, M. D.,
JOSEPH F. EDWARDS, M. D.,
Committee of Arrangements.

JOSEPH F. EDWARDS, M. D.,
Chairman Com. of Arrangements, 224 S. 16th St., Philadelphia, Pa.

EDWARD W. GERMER, M. D.,
Pres. State Board of Health of Penna.

American Medical Association.

The American Medical Association has been in annual session during Tuesday, Wednesday, Thursday, and Friday of this week in St. Louis. At the session on Wednesday, the Secretary, Dr. Wm. B. Atkinson, of Philadelphia, announced that the committee on the President's address would consist of Drs. Murphy, of Minnesota, Gihon, United States Navy, and Garcelon, of Maine. The nominating committee selected by the state delegations was then announced, each state being entitled to one member. H. J. Sharp, of Liberty, acted for Pennsylvania. The committee at once went into executive session, and agreed upon Dr. E. H. Gregory, of St. Louis, for the office of president during the coming year.

The Rush Monument Committee, appointed at the last meeting of the Association, reported they had selected an enlarged committee of one member from each state and territory to secure contributions to the fund. The contributions, which are limited to $1 each, are to erect a monument to Dr. Benjamin Rush, a signer of the Declaration of Independence, founder of Dickinson Medical College, and the most prominent of the early American doctors. The Judicial Council decided to admit the illegal delegation of the Philadelphia County Medical Society, against which a protest had been made. Dr. Nicholas Senn, of Milwaukee, read a long paper on Abdominal Surgery, and was followed by Dr. C. Gordon, of Portland, Me., with a paper on the Diseases of Women. In the section of practice of medicine, of which Dr. J. T. Whittaker, of Cincinnati, is chairman, Dr. Wm. Pepper, of Philadelphia, presented an able paper on "Nitrate of Silver in Catarrhal Jaundice." In the section of experimental researches, Dr. Henry H. Smith, of Philadelphia, discussed the proper treatment of penetrating wounds of the abdomen.

Wednesday evening the delegates were tendered a reception at the great hall of the Merchants' Exchange. More than 1500 of St. Louis' best citizens appeared to do them honor. After the reception the ball took place, and proved to be the social event of the year. Thursday night receptions were given at the homes of society leaders in honor of the guests.

A full report will appear next Saturday.

Surgeons to the Pennsylvania Company.

The seventh semi-annual meeting of the Association of the Surgeons to the Pennsylvania Company will be held in the parlors of the Wiler House, Mansfield, Ohio, Tuesday, May 18, 1886, commencing at 8:30 a. m., standard time.

PROGRAMME.

Roll call.
Reading of minutes.
Reports of committees.
Unfinished business.
New business.

REGULAR PAPERS.

"Intestinal Obstruction," Surgeon J. J. Larkin, South Chicago, Ill.

"Diphtheritic Wounds," Surgeon John A. Chesney, Bucyrus, O.

"The Comparison of Cases as an Aid in Treatment," Surgeon M. L. Brooks, Jr., Cleveland, O.

"Conservatism in Railroad Surgery," Surgeon J. H. Davisson, Warsaw, Ind.

"A Case of Railroad Surgery," Surgeon J. G. Buchanan, Allegheny, Pa.

Volunteer papers.

Adjournment at 3 p. m., standard time.

TIME OF TRAINS OF THE P., FT. W. & C. R. R.

East.

No. 8 Express Mail	12:13 a. m.
No. 6 Express	10:40 a. m.
No. 4 Express	9:10 p. m.
No. 10 Pittsburgh	6:45 a. m.

West.

No. 1 Express	6:25 a. m.
No. 3 Express	7:40 p. m.
No. 7 Accommodation	4:52 p. m.
No. 9 Fast Line	12:28 p. m.

OFFICERS FOR 1886.

President.—W. H. Harper, M. D., Lima, Ohio.

Vice-President.—R. P. Johnson, M. D., Canton, Ohio.

Secretary and Treasurer. — R. Harvey Reed, M. D., Mansfield, Ohio.

Executive Committee.—Dr. J. H. Davisson, Warsaw, Ind.; Dr. A. W. Ridenour, Masillon, Ohio; Dr. G. W. McGarven, Van Wert, Ohio.

The Fifty-fourth Annual Meeting of the British Medical Association.

We understand that the arrangements for the forthcoming annual meeting at Brighton are well forward. Owing to the lamented death of Dr. Austin Flint, it has become necessary to find another gentleman to read the Address in Medicine. The choice has fallen on Dr. Billings, of Washington, who has signified by telegraph his willingness to accept the office. The international character of the meeting will thus be still maintained. It is also hoped that Professor Charcot will be present, and will take part in the discussions. To turn to another side of the picture, we hear that Sir Thomas Brassey has placed his world-renowed yacht, the "Sunbeam," at the disposal of the Association for four days during the meeting. For sea-going members, a trip in the "Sunbeam" in August will be delightful, especially if its distinguished owner (who has expressed a wish to do all in his power to promote the success of the meeting) be able himself to be present. On Wednesday, August 11, Sir Julian Goldsmid has invited the Association to an afternoon garden-party at St. Ann's Well, the old chalybeate spring of Brighton. The excursions already arranged include visits to St. Leonard's, Hastings, Tunbridge Wells, Eastbourne, and Chichester; and to Arundel Castle, by invitation of his Grace the Duke of Norfolk. We shall give further particulars as time goes on. For the present, signs such as these show that the local executive is actively at work; and that not only they, but the profession and residents of the town of Brighton, intend to do their utmost to render this an agreeable as well as an important meeting. From all accounts, it bids fair to be both.

Adulteration of Food.

Mr. Edwin W. Martin delivered a lecture last Wednesday night in the lecture-room of the School of Mines at Columbia College, New York, on "Adulteration of Food." The lecture dealt with only the commonest frauds practiced with ordinary articles of consumption. Mr. Martin spoke first of the matter of water contamination, and next of adulteration of milk. In speaking of the lactometer and its value as a test, he disagreed with the adverse criticism that has recently been passed on the instrument. Within a certain range he considered it perfectly trustworthy. Among other experiments the lecturer manufactured milk from chemicals, fats, etc., as was done during the siege of Paris. Some time was given to the consideration of tinned goods and the dangers they contain. For much of the adulteration now practiced, the lecturer said, the public were to blame. In the case of peas, nine out of every ten of the consumers would reject the pure article as of "bad color;" hence the use of adulterants. The French are adepts at this coloring of vegetables, which has recently been prohibited. In turn, the adulteration of condiments, confectionery, tea, coffee, bread, flour, and other common necessities of life, was investigated. Mr. Martin said, in conclusion: "Many of them are frauds on the purse rather than the stomach, but the principle is bad enough to be utterly condemned."

—Dr. T. Gaillard Thomas has removed from 294 Fifth avenue, New York, to 600 Madison avenue, between Fifty-seventh and Fifty-eighth streets.

Official List of Changes

OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE, FOR THE WEEK ENDED APRIL 24, 1886.

Long, W. H., surgeon. Granted leave of absence for seven days, April 24, 1886.

Banks, C. E., passed assistant surgeon. Granted leave of absence for ten days, April 20, 1886.

Armstrong, S. T., passed assistant surgeon. Granted leave of absence for five days, April 20, 1886.

Items.

—Ohio will soon have a State Board of Health.

—The death is announced of Dr. Joseph Nowak, Professor of Hygiene in the University of Prague.

—Dr. E. T. Wells has been appointed to the Chair of Materia Medica in the College of Physicians and Surgeons, of Chicago, Ills.

—M. Vulpian has been elected, after a sharp contest with M. Milne Edwards, as permanent secretary to the Physical Science section of the French Academy of Sciences.

—The *Dakota Medical Brief* is a new journal which will published at Mitchell, Dakota. It is to be issued monthly, and edited by F. Andros, A. M., M. D., and H. S. Sevey, M. D.

—Dr. Jendrássic has found in cases of cardiac dropsy that calomel causes well marked diuresis, which dissipates the dropsy and œdema. The effect, "a sort of diabetes insipidus," comes on in twenty-four hours by giving one and a half grains of the drug three to five times a day. Salivation and sore mouth are prevented by using a gargle of chlorate of potash from the first.

—The Ohio Sanitary Association has elected the following officers for the ensuing year:

President—Dr. S. H. Herrick, Cleveland.

Vice-Presidents—Professor E. T. Nelson, Ph. D., Delaware; Dr. W. H. Phillips, Kenton; Dr. C. T. Langdon, Westerville.

Secretary—Dr. R. Harvey Reed, Mansfield.

Treasurer—Professor John Simpson, Ph. D., Mansfield.

OBITUARY NOTICES.

Reynell Coates, M. D.

Dr. Reynell Coates, a physician well known in this city in former years, died at his residence in Camden on Tuesday of last week, of pneumonia. He was eighty-four years of age. Dr. Coates had an eventful career and was successful as an author, politician, and scientist. He was born in this city in 1802, and his father was the Quaker philanthropist, Samuel Coates. He received his medical diploma at the University of Pennsylvania in 1823, and made a voyage to Bengal as surgeon of an Indiaman, after which he settled down to the practice of his profession on shore. He was a man of fine personal appearance and of great courage. It is related of him that in 1829 he had a wordy dispute with President Andrew Jackson. The debate became so warm that the President, fearing he might lose his temper, turned his back on the young man, but was wheeled suddenly about and received a stinging slap in the face. Dr. Coates frequently spoke of this incident in the latter years of his life, but became greatly incensed if any one criticised his action.

In 1836 Dr. Coates became attached to the scientific corps of the South Sea expedition, at that time considered a stupendous undertaking. The expedition was under the command of Commodore Jones, and Dr. Coates was placed at the head of the department of comparative anatomy. When the scheme broke up a new expedition was formed, but Dr. Coates became detached from the service.

He drafted the address of the Native American party in 1844, and wrote the widely-known poem, "The Gambler's Wife."

In 1845, after the death of his wife and only child, Dr. Coates moved to Camden, where he has lived ever since.

Hiester H. Muhlenberg, M. D.

Dr. Hiester H. Muhlenberg, of Reading, Pa., died May 5, at the age of 75 years. He studied medicine with Naval Surgeon Thomas Harris, and graduated from Dickinson College afterward. At the panic of 1837 he was called upon to take charge of the Farmers' Bank, was elected its cashier, and served in that capacity from that time to January last. Dr. Muhlenberg was a lineal descendant of Peter Muhlenberg, the patriot preacher of the Revolution. His mother was a daughter of Gov. Hiester, of Pennsylvania.

QUERIES AND REPLIES.

London Paste.

EDS. MED. AND SURG. REPORTER:

Please inform me how *London Paste is made.*

London, Ontario.

Ans.—Dunglison says, "A paste made of equal parts of caustic soda and unslaked lime in powder, prepared as a paste with water, when required for use."

EDS. MED. AND SURG. REPORTER.